YACHTING

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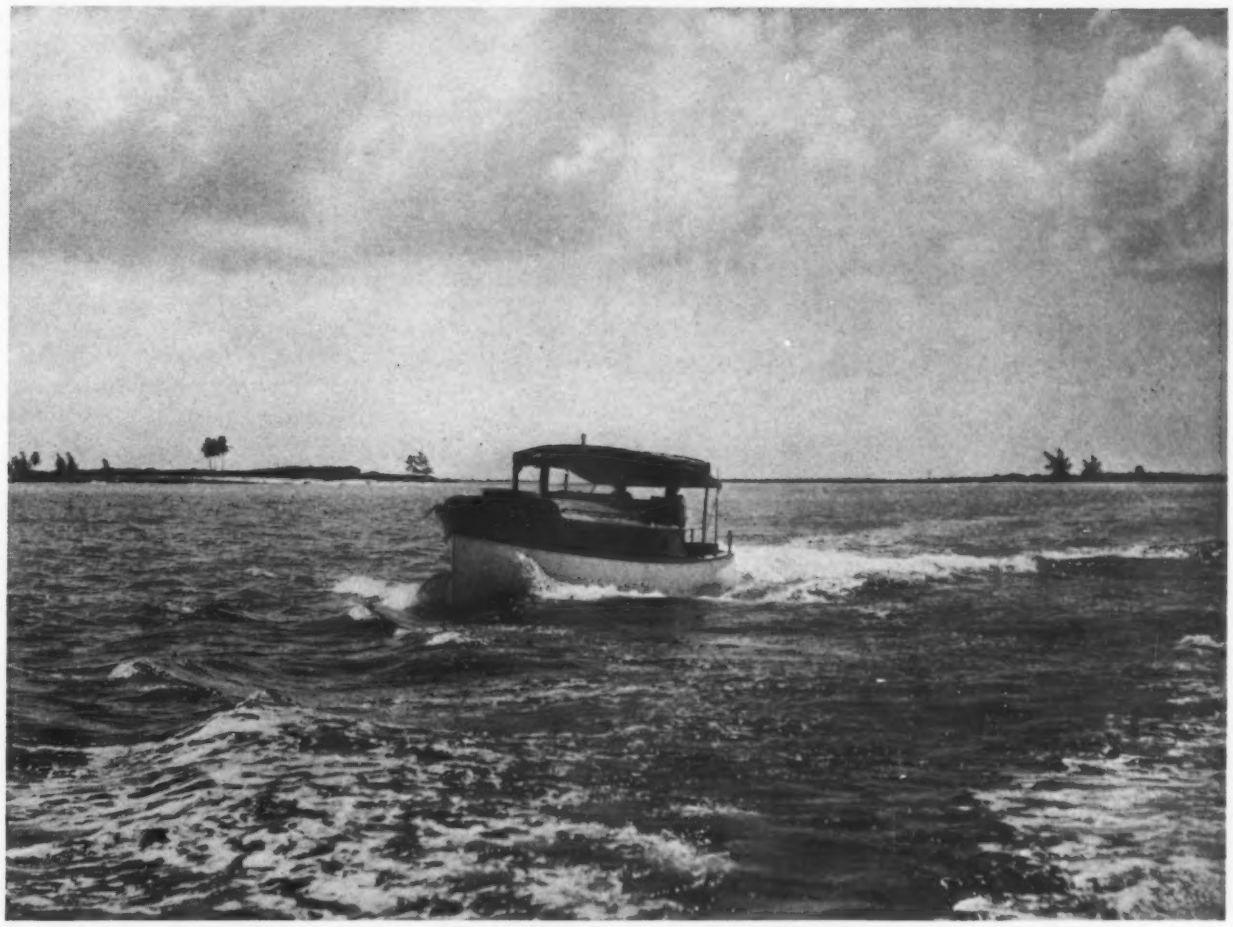


The entrance to Bimini Harbor. Once past the bar at the entrance to this harbor, excellent anchorage is found

"Bimini, Sweet Bimini!"

By

JOHN MAHONY

THE major purpose of our Bimini expedition last June was to experiment with a theory of "Chub" Wofford's for landing big game fish. The experiments, though brief, were conclusive as far as they went, and left little to be desired, especially in the way of action. The theory, apparently, was right but the tackle was ruined in the course of the experiment.

Amusing as it seems now, the thing that started us on this particular tack was the failure of other anglers. In the six months prior to our cruise, a steady stream of reports had arrived in Miami regarding the fishing in Bimini and the adjacent Bahama group. Many of these stories, in all probability, reached other yachting centers; an unusually large number of craft from the United States had visited the islands in that period, in some cases manned by sportsmen whose names mean something in the world of big game fishing. The remarkable feature of the reports, however, was that, although some record catches were made, the really big fish were getting away. More than that, fish were wrecking the anglers' expensive equipment, and were doing so with regularity, abandon and despatch.

Such was the state of affairs when, towards the end of the season, Chub telephoned me.

"Do you know," he said, "that both of us are way behind with our fishing this year?"

"Yes," I replied, "but what is a working man to do?"

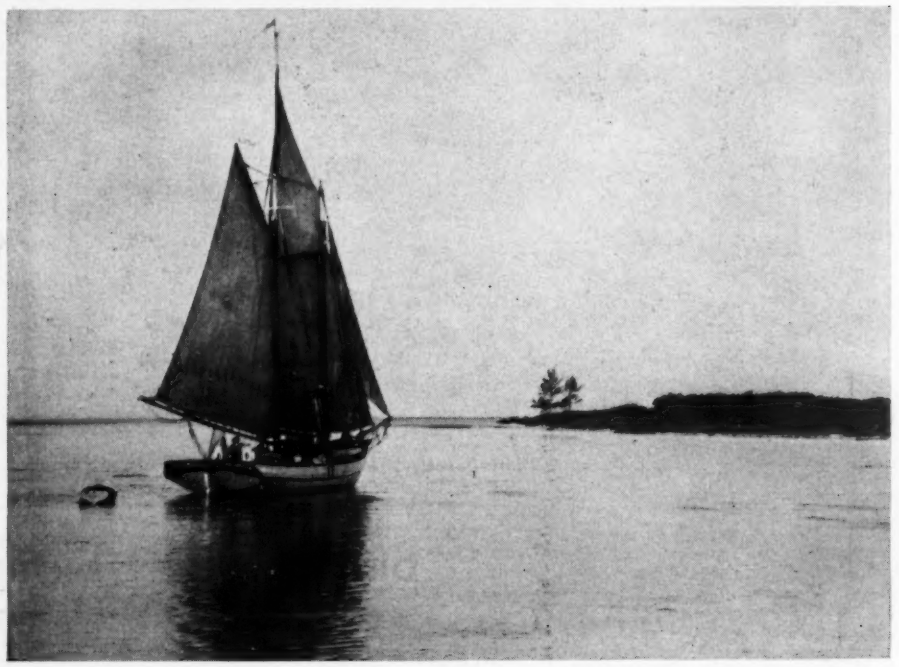
Ignoring the banality, he went on: "What do you know about the Bimini situation?"

"Nothing, other than that nobody seems able to hold 'em."

"Well," replied Chub, "I have an idea that we can land one. Come on over and we'll talk about it."

In the next few days, a grand scheme developed as Chub's theory was outlined and took form. Principally, it involved the use of a specially built reel. Professional guides, of course, were a necessity and, in addition, the amateur personnel ought to have at least some general idea of what it was all about. The prospects looked too good to keep from Lynn Bogue Hunt, painter and sportsman, who had been our

Bimini, or Alice Town, according to the charts, has the heritage of a romantic past



Right. A local schooner drifting over a Bahama sponge bed

companion on many a previous Florida cruise, so we telegraphed him in New York, outlining the program and inquiring if he could get away for the trip. He could.

As the general plan called for two boats, it was decided to take Chub's *Pacific*, together with *Vairene*, the latter skippered by Captain Lloyd McNeill. The former, a fast 34-foot Consolidated Play Boat, had been specially refitted for offshore big game fishing, that form of sport being Chub's particular hobby. The main reason for chartering the *Vairene*, a comfortable 46-foot Matthews cruiser, was not only her superior accommodations but also her captain's wide knowledge of the Bahamas and his experience with fish such as those we sought.

Pending the arrival of Hunt in Miami, a plan of action was worked out something along the lines of a gun-turret crew during war days, each man having a clearly defined function to perform, should we hook a big one. As far as we could see, nothing was left to chance. Meanwhile, Captain Hyden, Chub's "pro" in the *Pacific*, assisted by Captain McNeill, completed the construction of the reel, in addition to preparing their boats and laying in provisions. Those were busy days.

Such preparations may seem to indicate an excessive expenditure of time and trouble just for a fishing trip, but it should be remembered that we were interested in fish of nothing less than a thousand pounds — if, by luck, they came larger, so much the better. We three had seen some fairly large fish and, without intending to pun, we knew from experience that one cannot treat a thousand-pounder lightly.

Without going into technical explanations of subsequent developments, which might be of interest solely to a fisherman, suffice it to say that we had no trouble in finding our fish. Our failure was due to mechanical weaknesses. But to remedy this a bright young man from Georgia Tech has been coöperating on the construction of an improved reel. As he combines a love of fishing with the kind of knowledge which is on terms of familiarity with footpounds, BTU's, gear ratios, tensile strengths and other bewildering factors which apparently enter into the construction of the well made reel, we have hopes of watching Chub realize his desire before long.

What happened was this. On three consecutive days we had strikes from very large fish. The first one threw the hook in short order. The second — a huge marlin — smashed the bait to pulp but missed the hook. Then came the climax in the shape of a tuna which was hooked almost immediately. In the surge as it struck the bait, the fish came out of water

for almost half its length; as it was only twenty-five feet or so from our stern, we had an excellent view of it. To me, it looked as broad as a canoe and almost as long, while its weight, conservatively, must have been at least 1,500 pounds. It made no bones about grabbing the bait, and in no time had ripped off some 600 yards of line as the reel screeched and smoked. Then it slowed down, coming to the surface off our starboard beam where it lay peacefully a few moments, its huge back and crescent tail plainly visible. Then, slowly, it swung around, parallel with our boat, rolled over and over like a barrel, and the hook slipped out of its mouth — a complete anticlimax. We could not have done anything about it, anyway, because the reel was useless — jammed stiff, its gears and bearings frozen.

Chub, a boatman and fisherman of wide experience, normally almost devoid of fear, was white and trembling. True, we wanted large fish — all our plans were based on that hope — but we found more than we expected. However, there are plenty of others like that at Bimini, probably even larger, and almost an infinity of smaller fry, if you want to classify 150-pounders as "small" fish.

As for us, the wrecking of the reel afforded an opportunity for other activities — strolls along the long narrow ridge of an island, cruises to adjacent keys, bonefishing in the bay, just lazing and making plans for the next trip. It came, I suspect, as a decided relief to at least two members of the crew, Roy, the colored chef, and Jean McNeill, the Captain's young son. Because of certain high grades attained in school, the latter was included in the party as a vacation treat, and a grand youngster he turned out to be. Sometimes, I think the value of a boat as a means of welding ties in family life is sadly overlooked, and especially between father and son — though such was not the case in this instance. This indefatigable pair, Jean and Roy, waited on our every whim all day long, only to sit up all night, fishing from the stern, and whooping it up gloriously whenever they caught anything — which was about every fifteen minutes. Anything that took their hook was fully as good as a "record" to those two!

But for the yachtsman who has little interest in trying to hook record-breaking fish, or who has no interest whatever in any kind of fishing, Bimini has many other delightful charms to offer. Practically unknown to our modern America, the little island — it is only some six miles long by one-half wide — was a place of importance in the days when Spain was great, and the objective of many an ambitious expedition.

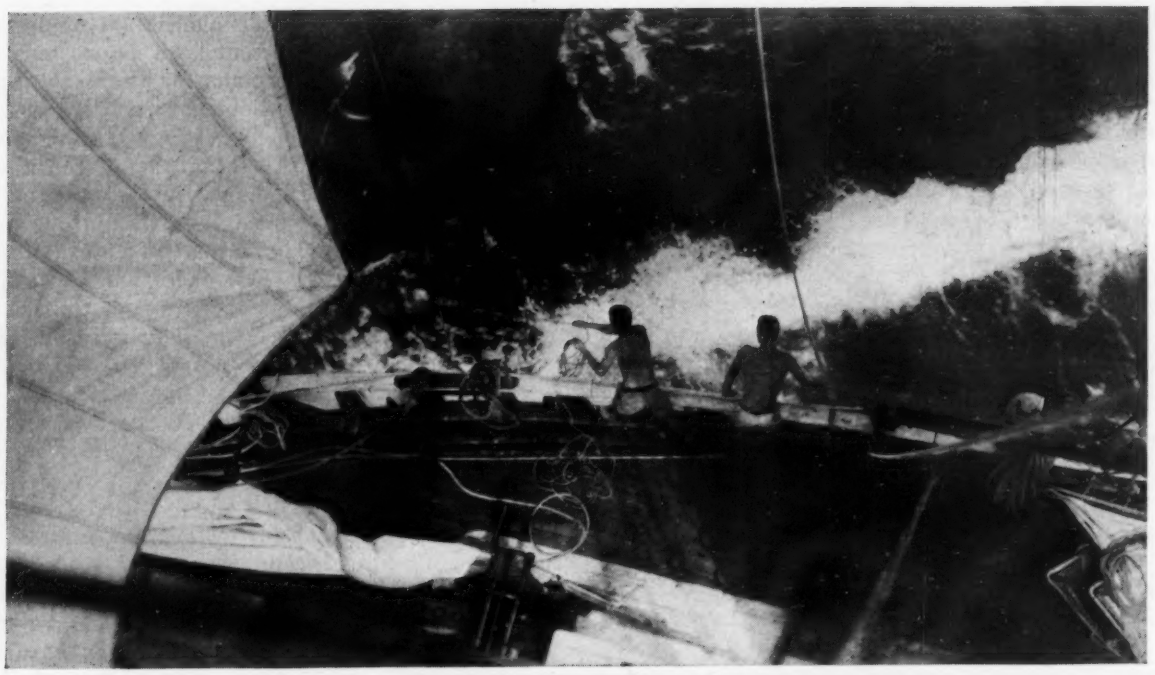
Documents of that adventurous age teem with references to the island and its reputed treasures, some idea of which may be gathered from the following:

(*Continued on page 124*)

G. W. Romer

The author playing a sailfish on light "salt water fly rod"

"Vairene," a comfortable 46-foot Matthews cruiser, was the mother ship for our expedition

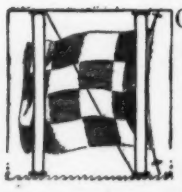


The mates keep the lead going while the skipper stays aloft on the lookout for shoal spots

Discovering Islands

All the Land in the World Is Not Yet Charted

By IRVING JOHNSON



NO, we won't see any new islands. They have all been charted long ago," I explained to my wife as she sat beside me on the square-sail yard, fifty feet above the deck. "There certainly are plenty of uncharted reefs around here, but islands are a different matter, although some of them already on the charts are as much as fifteen miles out of position. But you can see islands for miles and they would all have been charted and named for some years now."

We were on a round-the-world cruise in the schooner *Yankee*, doing masthead piloting among the islands of the Admiralty Group which lie about two hundred miles north of New Guinea. On the chart these islands looked sufficiently out of the way to be especially inviting, as they proved, in fact, to be. We found most of the natives living in villages built on shallow reefs just offshore from the main island of Manus. This isolation gave them greater protection from the wild Manus raiding parties. These houses of the natives were almost invariably built on piles over the water, and quite often the only ground close by was that which they had built up artificially by throwing all the loose coral rocks they could gather into one pile. This custom provides deeper waterways for canoes, but the islands themselves were seldom used for any purpose whatever. In going from one house to another, the natives always use their canoes, although the water is nowhere deeper than two feet. Even four-year-old children have their own tiny dugouts, without outriggers, in which they stand up and paddle along the watery streets of their village as confidently as do their fathers.

Leaving our first anchorage in the group, we headed west along the coast of Manus, the large island, through a maze of reefs seventy miles long and twenty-five miles wide. This would mean nearly two whole days aloft for me, as it is safe to move only when the light is suitable. Piloting in a region such as this is a strange procedure; the chart is absolutely useless except to keep track of approximate position in relation to the various islands of the group, and no soundings are shown on it. This was an unusual experience for me, after doing most of my navigating along the American and European coasts and the Atlantic Ocean, where soundings and aids to navigation are dependable. Here there is nothing to trust but one's eyes. The difference between the reefs and clear water is plain enough when the sun is behind and a light breeze is ruffling the water, provided there is not some large light-colored cloud above which reflects its light on the water just ahead. When this happens, or when the sun is ahead, it is most difficult to distinguish a reef until you are almost upon it.

Many times I have found the appearance of the water misleading as to depth, and I found this change was probably due to differences in the transparency of the water even more than to the character of the bottom. Whenever approaching a shoal in a new group, I have a man on deck take several soundings to give an idea of what depths to expect with different shades of green. When a light brownish color is seen, you may be sure that the reef is practically awash because it is the growing coral and seaweed that make that color. The next deeper water shows a very light blue; this color is the reflection from the white sand through four to eight feet of water. Then, as the reflection from the white sand gets darker, you have to be especially careful in gauging depth as it is necessary to take into account the character of the water in which you are sailing. There are usually many dark, almost black, coral patches spotted here and there on the white sand, but one always gauges the depth by the appearance of the sand itself. Even in the South Seas it is difficult at times to see the bottom in four fathoms. Off Pitcairn Island we could easily see the bottom at a hundred

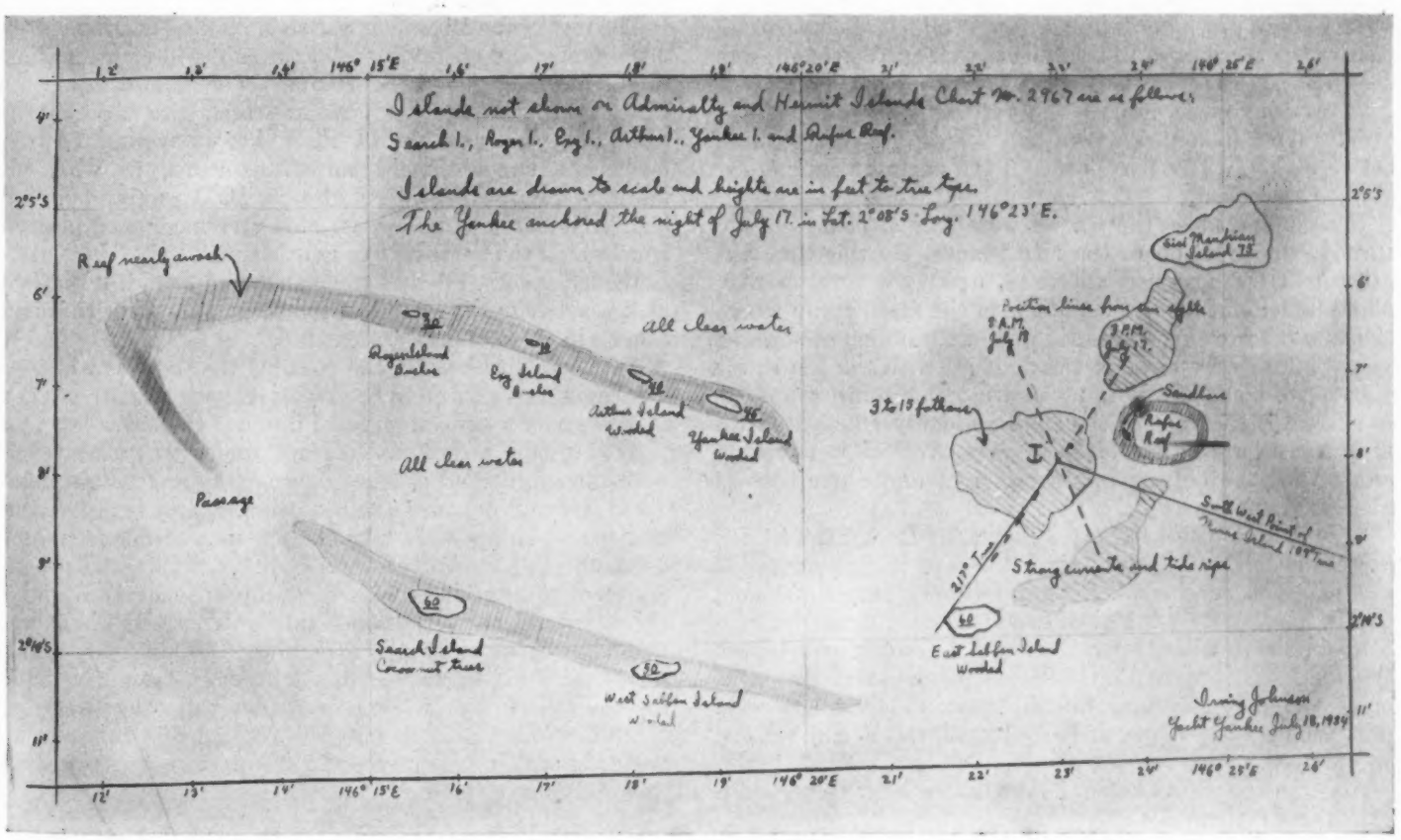
feet; in the Marshall Bennett Islands we let go the anchor in ninety feet and watched it hook into the coral as we backed the ship towards a reef to see if there was room to swing.

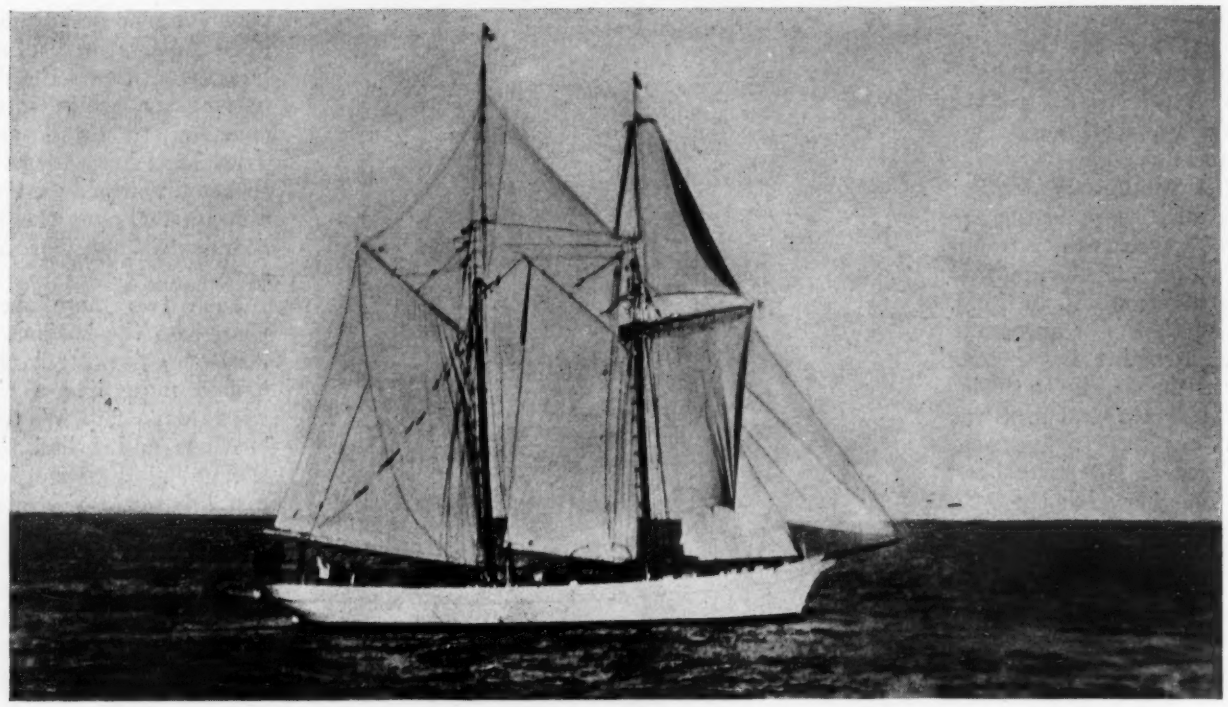
Another thing to watch for in doing such work is the approach of a squall which brings such a downpour of rain that to move at all would be folly. When a squall is seen approaching, the procedure is to bring the bow of the ship up to the lee side of some reef and drop the hook in from two to five fathoms of water. Here the bowsprit is hanging over the reef, which may be just awash, but under the stern there is no bottom at twenty fathoms. Sometimes the anchor will have to be placed two or three times before it will hook on some projection to keep it from sliding off into the deep water.

It was just after getting under way from one of these forced stops that I saw a tiny speck ahead on the horizon. Because of its bearings it could not be an island as the chart showed none. Standing up with the binoculars, I thought I made out the bridge of an approaching ship. What a ship would be doing in those waters I could not imagine, but there are many stories of Japanese shell poachers who go around to isolated islands and often steal large quantities of the shell that natives, or white men, have collected to await shipment. They have large crews and are so heavily armed that they are able to steal from these smaller islands without fear of resistance.

Captain Johnson conns the "Yankee" from aloft while Mrs. Johnson helps watch for coral heads. Below is a rough sketch chart of the group of islands discovered last summer

Soon two more specks appeared on the horizon and the first one, growing larger, now looked more like a clump of trees than a ship. We took more bearings and I had the chart brought aloft to me, but there certainly were no islands charted where these specks appeared. However, with such a mess of reefs as showed up ahead, even brand new islands would have to wait to be investigated. It was now afternoon and the sun drawing ahead caused a glare on the water which made the reefs hard to see. But perhaps the most disconcerting thing was the strong current that caused tide rips which made even deep water look like a breaking reef. I had planned to leave the Admiralty Group on this day, so, with the moderate breeze, we were now making our utmost speed under power and sail, trying to get clear of all the outlying reefs before the light failed. Even the squaresail


Islands not shown on Admiralty and Hermit Islands Chart No. 2967 are as follows:
Search I., Roger I., Log I., Arthur I., Yankee I. and Rufus Reef.
Islands are drawn to scale and heights are in feet to true type.
The Yankee anchored the night of July 17. in Lat. 2°08'S Long. 146°23' E.
Reef nearly awash
Passage
All clear water
All clear water
Roger Island Wooded
Log Island Wooded
Arthur Island Wooded
Yankee Island Wooded
Search Island Cocoanut trees
West Sabon Island Wooded
East Sabon Island Wooded
3 to 19 fathoms
Position lines from the sights
2 A.M. July 18
3 P.M. July 17.
Sandbank
Rufus Reef
Strong currents and tide rips
Irving Johnson
Yacht Yankee July 18, 1934



The schooner "Yankee" leaving Gloucester on her voyage around the world

was set and we were bowling along at a great rate. Suddenly a long reef appeared ahead.

"Stop her!" I yelled, and the Diesel was shifted into neutral, but the sails still kept us piling along. Then, over to starboard, a heavier tide rip showed where the water was probably deeper.

"Starboard, six points. Brace the yard!" And we skirted along the reef. Deeper water showed up.

"Port, four. Let her go ahead!" Now, just off our starboard bow there appeared a queer looking, oval shaped atoll which showed above the surface only in two long sandbars at one end. The remainder of the symmetrical oval was a narrow, light brown strip of live coral with even narrower strips of light green bordering it inside and out. There was no pass in the reef but in the center, as well as all around, was deep water.

"Port four more. Square the yard and jibe the mains'l over!" We had found a pass only two hundred feet wide between the long reef to port and the partially submerged atoll to starboard.

Now it looked as though we were at last clear and we turned our attention to the new islands. By this time another pair of them had appeared, making a total of five, all stretched out along the outside of the main group where the chart showed open ocean. I was just thinking how glad I was that we were clear of the reefs as, with the sun so far ahead, we could see nothing under water more than one hundred feet in front of the ship. Suddenly I looked down and saw several flashes of dark green. And we were racing along with the bottom appearing right under our bow as plain as day.

"Let her go astern! Hard astarboard! Heave the lead!"

The mate, Fred Jackson, had the lead ready and called out in quick succession, "Eight fathoms; seven fathoms; five fathoms." Now it looked even shallower to starboard.

"Stop her and hard aport!" Slowly she swung back before the wind. "Steady at that!" The depth was still five fathoms. We might get across, but there was no telling how wide the reef might be. Now it looked shallower ahead. "Hard aport!"

And the soundings came, "Four and a half; three and a half; three fathoms."

"Clew up squaresail and douse jib!" I bawled. "Get the anchor ready. Full speed astern. Haul mainsail amidships as she rounds up!" Still getting three fathoms, and we draw about two.

"Let go the anchor!" The chain hardly rattled, it was on the bottom so soon, but we paid out sixteen or eighteen fathoms because of a strong current which held us broadside to the wind.

"Clew up topsail. Down foresail and mainsail. We'll stay here for the night and find out in the morning how much more of this reef we've got to cross." It was still only 2:30 p.m., but looking ahead into the sun we could see no more than if it were midnight.

The rest of the afternoon was spent taking bearings of the new islands and observations of the sun. More observations in the morning put us in Latitude 2° 08′ S and Longitude 146° 23′ E. The lines of position from these observations came out exactly on the D. R., which was computed from bearings of two of the charted islands nearest us, while two more islands, which were also in sight, were definitely charted a couple of miles out. This gave me a good position from which to chart the five new islands.

We felt greatly relieved to be anchored even if it did look as if we were in the middle of the ocean except for the small islands in the distance.

From the masthead in the morning the shoal at which we were anchored proved to be extensive, with a depth of three fathoms over a large area, but I doubt if there was less than three fathoms anywhere. We got under way about 9:30 with the sun behind us showing up every reef within miles.

On the way out past the new islands, dozens of bearings and cross bearings were taken by the mate, while from aloft I was able to get a fairly accurate idea of the size, shape, and depth of the various reefs. As we approached the first islands, several natives climbed into an outrigger canoe and paddled out to us. We slowed down, thinking they might have something to trade, and also to learn the native name for the island. But in answer to our question, in Pidgin English, "What name belong this fella island?" they yelled back something which we could not make out. Apparently they didn't live there.

(*Continued on page 126*)

Cruising Along the Coast of Texas

Sounds, Bayous, Rivers and Canals Invite the Cruising Man to a Hospitable Coast

By VAL J. FLANAGAN, JR.

THE recent completion of the Louisiana Intracoastal Canal, an all-inland route from New Orleans to the Sabine River, opens up a sheltered route to the Texas Coast, that great but little known region that stretches along the Gulf of Mexico from Louisiana to Mexico. Here is a potential cruising ground of many miles for the northern yacht owner who spends his winters in the South.

But few yachtsmen have cruised farther west than Louisiana. The chief handicap heretofore has been the "outside passage" around Louisiana's highly irregular coast line. Now, cruising to the Texas coast is like traveling a well marked highway. There is nine feet of water between the Mississippi and Port Arthur with a channel width varying from forty to one hundred feet on the bottom. West of Port Arthur there are several shoal spots in the Channel.

A glance at the map of Texas may be of interest. Starting at Point Isabel, prominent in the history of the Mexican War, and running northward almost to Galveston, is a narrow strip of land, a natural breakwater for the coast line. It is broken here and there by passes, and these passes are the only points where one can get from the Gulf into the cities of Texas. Inside of these islands are connecting sounds, picturesque bays and inviting rivers and inlets.

The cities are modern and hospitable, and possess splendid harbor and wharfage facilities, most of which are municipally controlled. The climate is mild and crisp. There is much to amuse, to take one out into the Texas sunshine, the gulf breezes and the blue-green water. Sports ashore run the gamut from golf and tennis to horse and dog racing. Fishing and hunting are famous throughout the country. Tarpon, shark and jewfish are the big game varieties to be found. Redfish (channel bass) are caught in the surf along the outer beaches of the coastal islands. Drum, sheepshead, pompano, mackerel, snook, grouper, flounder, weakfish and countless other salt water fish abound. Red snapper are found offshore at banks from ten to thirty miles out at sea. Experienced guides and offshore fishing boats which are modern and fast are to be hired at all points along this stretch of coast.

Millions of ducks, geese and other waterfowl winter in the coastal marshes; deer, javelinas and peccaries are found in the thickets, and dove, quail, woodcock and snipe feed in the sorghum cane fields.

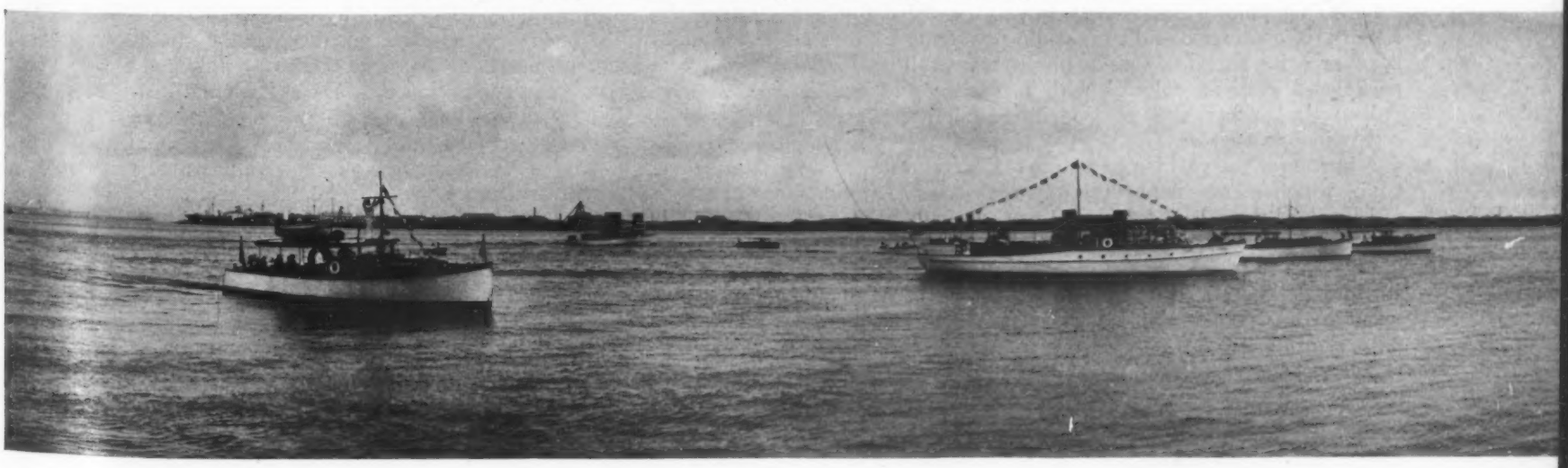
There are two routes from the Mississippi River to Texas. For boat owners who come from Florida, Mississippi or Alabama, there is the one *via* the Harvey Canal, the entrance to which is opposite New Orleans. The route passes through Bayou Barataria, Bayou Villars, Bayou Lafourche and through the canal to Houma; thence through Bayous Black, Chene and Boeuf to Morgan City on the Atchafalaya River. From the Atchafalaya, the channel follows Little Wax Bayou and connecting streams to Little Bay and into the Vermilion River. A 44-mile canal connects with the Mementau River, and the waterway continues on to the Calcasieu and thence to the Sabine River, which is the dividing line between Louisiana and Texas.

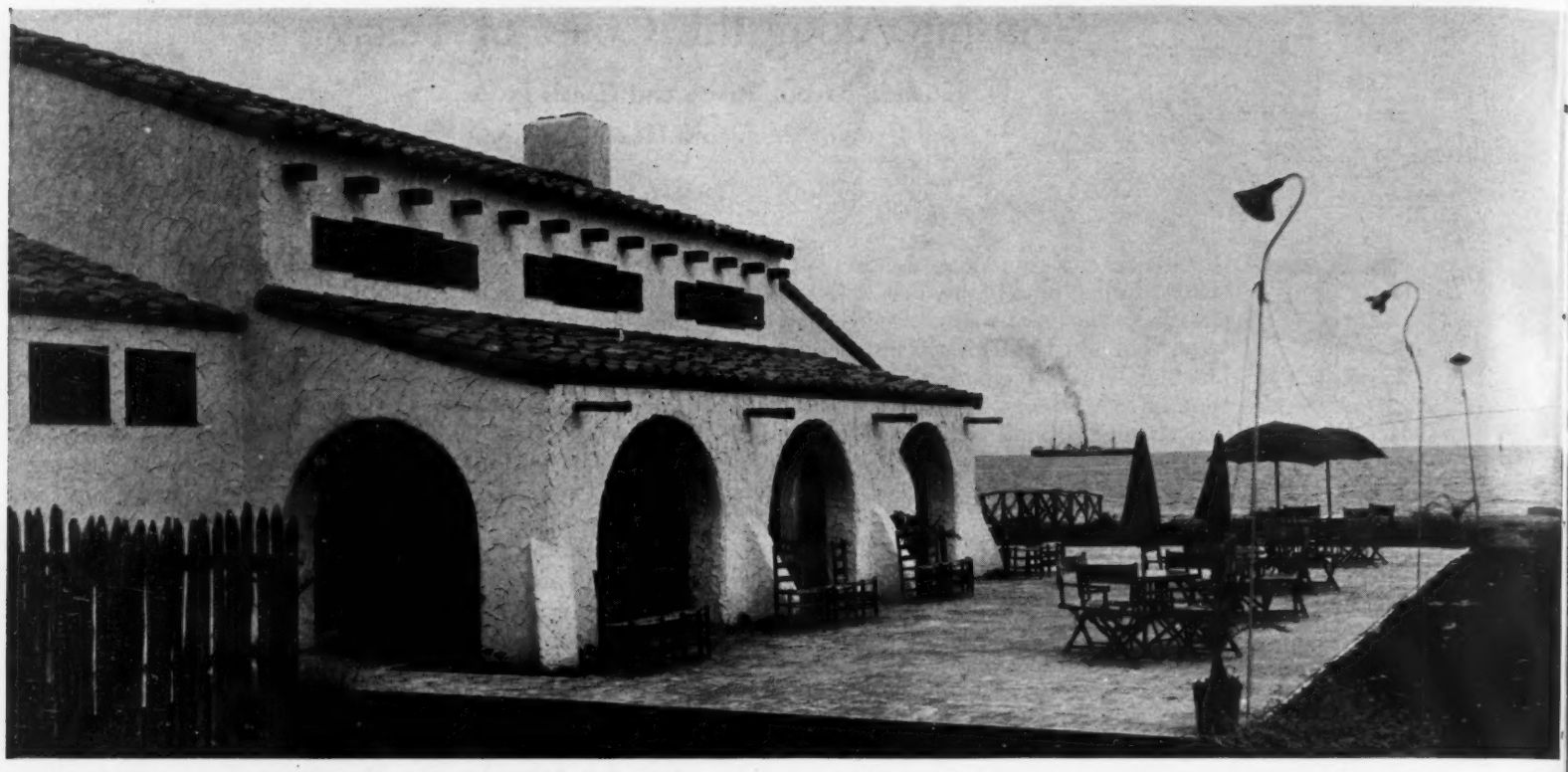
The yachtsman who comes down the Mississippi will save time by going by the Plaquemine route, which passes through the Plaquemine locks, 112 miles above New Orleans, into Bayou Plaquemine and through Bayou Pigeon, Grand Lake and Six Mile Lake, or through Bay Natchez and Belle River Bayou to Morgan City, where it joins the waterway from New Orleans. Complete course details, maps and information can be secured from official sources at either New Orleans or Plaquemine.

The trip through the canal makes a splendid cruise. The route passes through the land of the Acadians, the adopted home of Evangeline; along somnolent bayous lined with ancient oaks with beards of gray Spanish moss; through a system of natural waterways, unequaled anywhere, which gives this South Louisiana section the nickname "Holland of America"; through the "Sugar Bowl" section with its vast plantations; past rice fields, sulphur and salt mines, and dense cypress swamps.

Crossing into the Sabine River, the route turns toward the Gulf of Mexico, about twenty miles southward. Orange, Port Arthur and Beaumont, all oil ports, are near by. After passing out of Sabine Pass into the Gulf, the course is almost

Galveston's excellent harbor and port facilities, together with the beauty of the country and the possibilities for recreation which it affords, will delight the visiting boat owner





The Galveston Beach Club overlooks the entrance to the harbor

Left. There is excellent tarpon fishing on the Texas Gulf Coast

Right. Outboard racing is popular at various points on the Texas Coast. Regattas held at Houston have attracted drivers from every section of the country

Bottom, right. The waters adjacent to Corpus Christi afford every opportunity for recreation

due west. Not many hours afterwards Galveston, about 55 miles to the westward, is sighted in the distance. Founded on an island in 1818 by Jean Lafitte, a big leaguer among the pirates of that day, Galveston is rapidly becoming one of America's popular winter resorts. It is a city with a dual personality of commerce and recreation. A 30-mile white sand beach, roaring surf, fine seaside hotels, a seawall boulevard, parks and gardens colorful with oleanders and rustling palms, the harbor and port facilities, all are delightful revelations to visitors.

A haven for the yachtsmen ashore is the Galveston Beach Club, which seems inappropriately named since it places more emphasis on sailboat racing and power boating than on any other activity. The clubhouse is an attractive building Spanish in type, situated on a beautiful portion of Galveston Bay where it commands a view of the entrance to the yacht harbor. The harbor has excellent docks and a minimum depth of twelve feet.

The visiting yachtsman might make Galveston his headquarters for several days, or weeks, for many side trips may be made. For instance, there is San Jacinto Bay with the historic battlefield high on the bluffs above it. There is also beautiful East Bay, across from Galveston, Sylvan Beach, Anahuac and Double Bayou.

A worth-while trip is that up the Houston Ship Channel into the modern bustling metropolis of South Texas. Houston, fifty miles from the sea, is said by many boat manufacturers to be one of the greatest yachting centers in the country. Although there are no large bodies of water and few deep streams, the population of Houston is highly boat-conscious. The Houston Yacht Club, at Shoreacres, on Galveston Bay, has perhaps one of the finest yacht club properties in America. The building is new, modern and handsomely appointed, with beautifully landscaped grounds. It looks out on a yacht harbor which accommodates an extensive fleet of sail and power craft. The club's course has been the scene of two Mississippi Valley Power Boat Association regattas, in 1927 and 1931, and visitors to those events will remember the open hospitality of Houston yachtsmen. Victory and Star Class sloops have frequent races. Some forty miles to the westward lie Freeport and the historic Brazos River. Here the small boat enthusiast will find the Texan who rides his outboard craft much in the manner of his grandfather riding a mustang. Outboard

motor boats have been raised to top place in sports and Freeport annually stages an outboard regatta which attracts well-known drivers.

Farther along the coast are Pass Cavallo and a myriad of bays. Matagorda Bay hides behind the long Matagorda peninsula. Espiritu Santo, Lavaca and San Antonio Bays adjoin one another. Here are color and romance undreamed of by those who have done their cruising in more settled sections of the country.

The next port of call is Corpus Christi, "Naples of the Gulf," about 230 miles from Galveston. It is a city of sunshine and sails, reaching out for trade beyond the seas, yet enjoying every climatic and scenic requisite for contentment. Corpus Christi is a port now. But long before it was a port, it was a place of laughter and happiness. Folks from Iowa and Minnesota come down to Corpus Christi when their toes begin to chill in the late fall, and they stay until — well, until they're prodded unwillingly back to desk or factory or farm.

Corpus Christi is a winter vacation paradise. Here the boat owner will find the rainbow's end in the surrounding waters. Laguna de la Madre and Baffin's Bay, Corpus Christi Bay and picturesque Nueces Bay — all are equally inviting. Here are modern hotels, a stone's throw from the water's edge, and a small but live yacht club. Safe moorings are available at either of two docks or in the harbor.

The visitor may indulge in various land sports or motor through a countryside of great beauty. Near by is the world's longest oceanic driveway, which follows the edge of the Gulf for 125 miles. Smooth as a paved road, its glistening sands, washed daily by the tide, lure one along its full length. Here and there are the wrecks of old ships, now partially engulfed in sand. One hears of treasure buried on these wild shores, and sees curious shells and flotsam from distant South America.

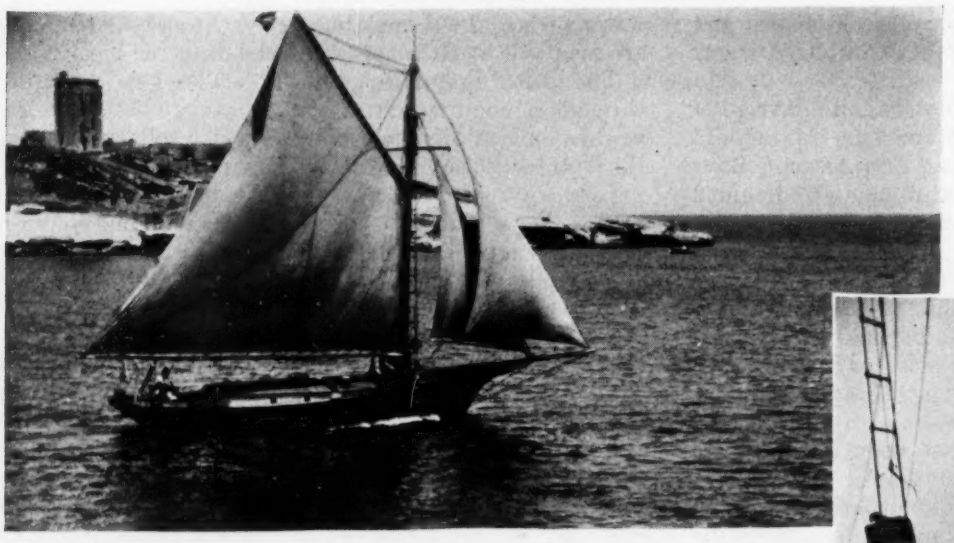
Adjacent to Corpus Christi is Port Aransas, the great oil port, and one of the best natural harbors on the Gulf of Mexico. Aransas Pass has long been famous for its tarpon fishing.

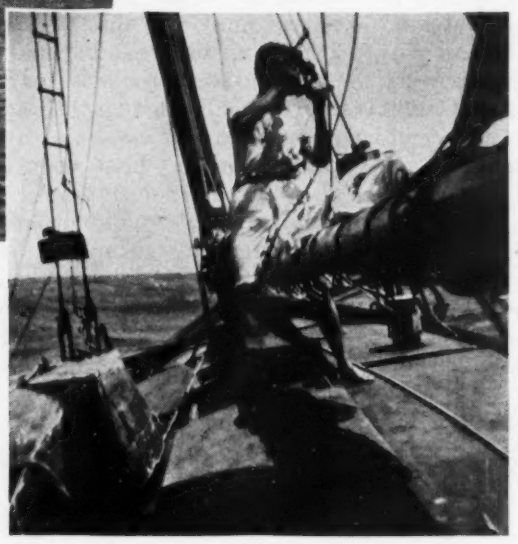
A trip to the Texas coast would not be complete without a visit to the famous Tarpon Inn on Mustang Island. It stands atop a sand dune, overlooking the Gulf waters. Here one may see giant trophies of many a hunt for the silver king, or hear colorful tales of battles with this fighting monster of the deep and of the wonderful fishing in and around Aransas Pass.

Leaving Corpus Christi, the course lies south through the Laguna de la Madre. It is from three to nine miles wide and is sheltered from the open Gulf by the long, narrow Padre and Brazos Islands. Two things impress the yachtsman who sees this bay for the first time. One is the color of the water, greenish-yellow in some places and a beautiful pale clear green in others. The second is the bird life of the region. There are pelicans, ducks, geese, long-legged snipe, flamingo, blue heron, cranes and many other varieties of gorgeously plumed wild fowl. The birds are not wild for they are protected by the government in this body of water, and they seem to know it.

At the southerly end of the Laguna de la Madre is Point Isabel, popular fishing and seaside resort of the Rio Grande Valley. It is about 115 miles south of Corpus Christi. Here water polo is played with outboard motor boats. This sport has been developed on a large scale, and is extremely popular, at the Point Isabel Yacht Club. Twenty miles farther south is Brownsville, next door neighbor to Matamoros, of Old Mexico. Only the silvery Rio Grande separates the two cities.

It is a dream cruise down this coast of Texas and to Old Mexico. Take my tip and try it. You'll not regret it.





"Ochito," under her old rig, standing out of Malta. Below, taking a sight when hove to

Small Boats at Sea

By

J. EDWARD CROWLEY

ABOUT two and a half years ago my wife and I took the chance of setting out in *Ochito*, our 36-foot Friendship sloop, to see a few of the parts of the world that interested us. In spite of dire predictions, mostly contributed by landlubbers or sailors whose experience was limited to large ships, we returned early last spring with ship and crew as fit as ever. We had sailed practically the whole time, and had crossed the Atlantic, cruised the Mediterranean, and then sailed back across the Atlantic.

Now I am about to take another chance by expressing some opinions about boats and the sea to as wide and varied an assortment of yachtsmen as can be found — the readers of YACHTING. That, I consider, is a highly dangerous undertaking in view of the decided opinions of most yachtsmen and their tendency to air them. But, even though I do not in the least pretend to pose as a technical expert, or think that I have discovered any great and urgent truths, in the course of sailing *Ochito* for so long a time I could not help developing a few ideas about small boat operation and handling, in general.

While we were in the Mediterranean, a clipping from YACHTING was sent to me. It started by congratulating us on our safe arrival in Europe and ended by saying: "But did you ever see a worse rig than *Ochito* carried? Will wonders never cease?"

This question of rig can wait. But that we got across was no wonder at all, for we were careful and *Ochito* had a sound hull. These two considerations are enough to make a Transatlantic passage in a small boat reasonably safe. The connotations involved are not particularly complicated. For making a safe, not necessarily a fast passage, the hull need only be sturdy, buoyant and non-capsizable. In witness of this belief, consider the widely varying lines of the boats which have made the passage, *Foam* and *Firecrest* for example. The Gloucester dories that have made the passage are special cases, for the men who took them across were past masters at handling that particular type.

Which brings up the second point. Being careful presupposes knowing how to be careful in a small boat. My own experience before starting was probably close to the minimum with which such a trip should be undertaken. I was thoroughly familiar with the handling of small boats, having sailed them as long as I can remember. But my experience offshore under sail was practically *nil*. My knowledge in this respect was almost purely theoretical. Of course I understood celestial navigation, but that is simple. Any normally intelligent person can learn all that is necessary for small boat navigation easily in a short time, provided he is willing to work at it seriously.

One fact that I did not appreciate until some time after we had started is that the human element in the man-and-ship combination is almost invariably the weaker of the two and, therefore, should be handled with delicacy in times of stress. This does not refer to *Ochito's* Staff Captain, Mrs. Crowley, who always did her share and showed surprising resilience and aptitude for the life, enjoying it both at sea and in port. The point, generally conceded in sailing ship days, was brought home to me by observation of many men, including myself, aboard *Ochito* and other small boats we met on our travels.

All of this naturally leads to that invaluable saver of energy and gear, the sea anchor. I would not think of sailing long distances offshore in a small boat without one. No matter how well a boat may heave to (*Ochito* lies quite quietly with the new ketch rig), I much prefer to use a sea anchor in serious weather, if for no other reason than that it eliminates the danger of having canvas blown out. Two rather ambitious sailing expeditions of which I know came to untimely ends because of loss of canvas, and another from lying to too broad off the wind. Two of the boats were abandoned at sea. Our sea anchors were, to a large extent, responsible for the fact that we lost no canvas.

Besides, it is a lot of fun to be riding securely, hundreds of miles from nowhere, in wild and nasty looking weather. I remember especially two days, out in the middle somewhere when we were bound east, of luxurious loafing after eight strenuous days of sailing. While a hard, wet easterly blew

itself out, we stayed below in dry clothes and ate hot corn bread and other delicacies with which the Staff Captain was amusing herself in the galley. Because our pair of sea anchors were out ahead working, we could take our ease without a care in the world.

Of course, if you are imprudent or unlucky enough to be caught by a blow with trouble instead of good blue water under your lee, sea anchors are useless and you must do a bit of sailing. And that is the time when the rig is put to the test. (And this is the time when I get a chance to defend *Ochito's* old rig, even though I have weakened my defense by having changed her to a ketch.)

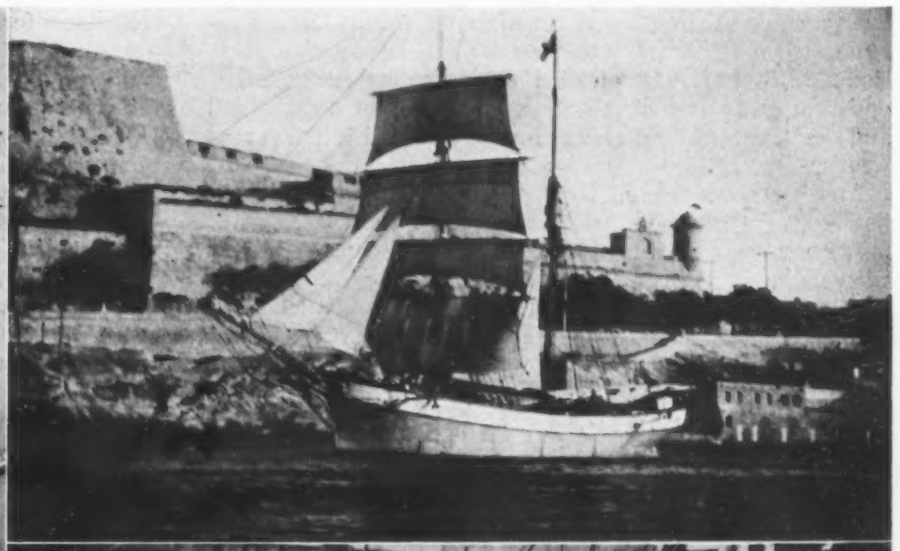
Under such conditions, it seems to me important to have the windage of hull and rigging at a miminum and the area of driving canvas one can carry at a maximum. Our old rig, with its short single stick and long boom and gaff, met these requirements. Close-reefed, we would still be standing up to a fair-sized piece of canvas, and could stand up to it because of the low center of effort. That, in my opinion, argues strongly for the safety of such a rig when the need is greatest.

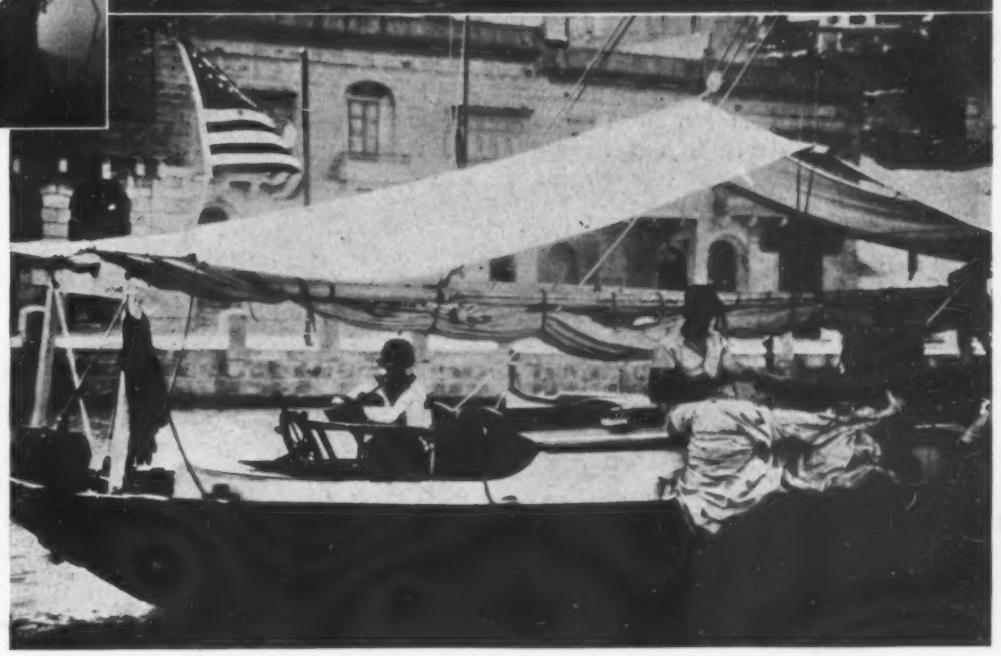
With the usual variety of sailing conditions out in the open, the question is an altogether different one. There, I am willing to concede, a ketch rig is easier and for that reason probably safer. A big sail requires more watching if one is to avoid being caught with an unmanageable spread of canvas in a change of weather. But it is not impossible to be sufficiently watchful. With a gallows frame to help handle the boom, we had no difficulty.

As for the relative advantages of a jib-headed rig, I am not in a position to speak as my experience with good jib-headed rigs is too limited. But I think that the extra work involved in handling the big sail of a single-sticker is well recompensed by the greater efficiency of the undivided sail as there is no blanketing and backwinding of one sail by the other in a two-masted boat of *Ochito's* size.

Why did I change our rig from that of a sloop to a ketch if I think so well of the sloop? I would not have altered *Ochito's* rig if we had stayed in the big oceans where changes of weather are neither frequent nor sudden. But the Mediterranean, where we cruised for a year and a half, is a different matter. There, the labor involved in getting about under sail alone is phenomenal no matter how the boat is rigged, to say nothing of the patience required. Where the wind can make ten complete and sudden changes in a day (that is no exaggeration) the advantages of the ketch rig are obvious. And we changed our rig to suit the conditions.

Incidentally, speaking of that change of rig reminds me of a point in long distance sailing that is usually a matter of taste but may well be a matter of importance, that is, being willing and able to do upkeep work or even new work on your own boat. I get a lot of fun and satisfaction doing things myself, rather than hiring men who may or may not





Rigging "Ochito's" mizzen-mast while in Corfu. In this picture the squaresail is shown furled on the yard which was not the author's usual practice. At the right is a domestic scene, with the skipper and crew sewing on the squaresail while the mate concocts a pie. Above is a typical Italian coaster running into Malta

be competent. Of course, if the necessity for a rigging or sailmaking job develops at sea, there is no question about who is to do it. A little practice ahead of time then stands one in good stead.

We changed *Ochito's* rig in Greece. And that is the next thing to doing it at sea — next worse, perhaps — as far as getting help is concerned. Any workmen one gets there are likely to do nothing more helpful than ruin a lot of good stock. The result was that we did the work ourselves — designing, carpentry, rigging, sailmaking and all. We did likewise with the squaresail, yard, and topsail in Malta, although there we could have had the work done ashore.

I understand that some cruising men are not as enthusiastic as I about squaresails. Spinnakers are their choice. In racing, where the labor of sail handling and the wear and tear on gear is of little importance, and getting the maximum of sail area is of the greatest importance, a squaresail is not to be compared with a spinnaker. But cruising, especially in a small boat, short-handed, is something else.

Going to leeward is of great importance in ocean sailing; if you lay your courses as you should, according to the recommended sailing ship routes, you will be running most of the time. And what a difference there is between coasting along under a squaresail and sailing with booms swung wide off, requiring boom tackles, chafing gear, and jibes from time to time to get the best out of slight changes in direction of the wind — not to mention the danger of unintentional jibes.

These things make a lot of difference in such a run as the one we made the first five weeks after we left the Canary Islands, when the wind was dead aft practically the whole time. Until our squaresail died of old age (we had made it out of an old and failing spare mainsail), it bellied out full and quiet, dragging us along at a good clip with little or no wear or chafing.

Another advantage of the squaresail is that you do not have to round up to douse it. That means that you can carry it in an increasing wind just as long as it seems advisable without having to consider the difficulty of getting broadside on at any time. Because of that, and the fact that it is quiet and balanced and has a distinct lift, you can hang on to a large spread much longer than with fore-and-afters boomed out.

Coming down the east coast of Spain in a whistling norther last winter, we had a good example of this. On that particular day we made 160 miles in less than 24 hours, with a foul bottom and the wind dead aft. We were afraid we were going to blow the squaresail out, and possibly we would have if we had not slacked it well out against the forestay to give it extra support. The seas were short, steep and high and gave *Ochito* a deep roll. If we had been under fore-and-aft sail, we would have had to shorten down to the minimum, top our booms way up in the air to keep them out of the water, and be constantly on the alert to avoid jibing. We would have made little, if any, more than one-hundred miles. As it was, we had to steer all the time to keep a steady course but it was comparatively easy and we had nothing to worry about. The worst that could happen was that our sail might go to pieces. For once, we took that chance. Miles had been so hard to get there that I did not have the will power to pass up that chance of getting some more in a hurry.

The praise of the beauties of our squaresail is not complete without a word about the square topsail. Its use was twofold. First, it gave us eighty square feet more area when we wanted it. Second, it gave us our chief driving power whenever we "made port" for the night (*i.e.* let *Ochito* sail herself) in the trades, which we did two or three times.

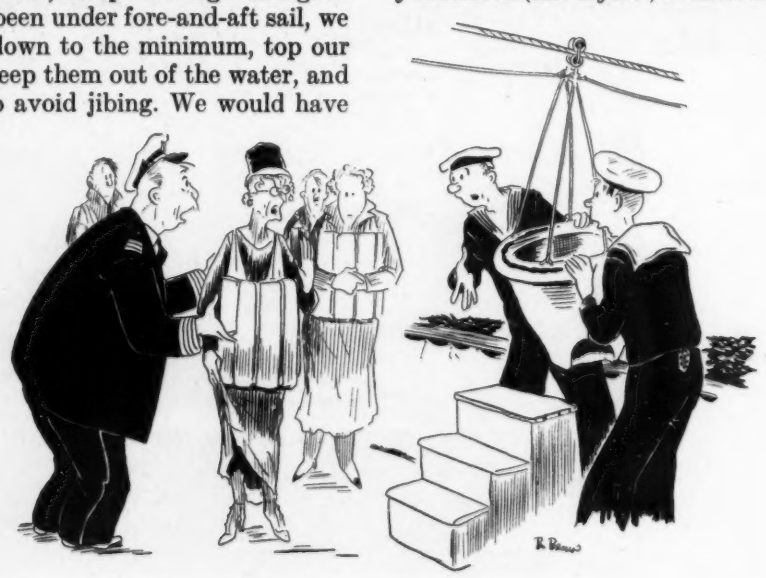
On such occasions we would set the square topsail, sheet the jumbo flat, go below and reappear when we felt inclined. I figured at the time that if we had left the Canaries with sails set like that, and the wheel amidships, and had done nothing more about it, we would have reached one of the Windward Islands in a little over thirty days.

As a matter of fact, I think *Ochito* could care for herself almost indefinitely as long as land is far enough away. That statement is, perhaps, a little broad, but it is no great exaggeration. One of our two standard procedures when the weather got too bad for sailing was quite like that. No topsail, a long bight of heavy rope dragging astern, someone at the wheel and we really could run indefinitely with safety. (That was, of course, a steal from Captain Slocum, but it was no less effective for that.) It should work with any boat that has a forefoot not too square.

Running like this, I have seen *Ochito* completely out of sight in the foaming crest of a sea many times in the same day during our boisterous passage to Bermuda. But as the seas were regular that day we were in no real danger. The boat would travel so fast right in the crest, and so high in it, that there was never any really solid impact to carry anything away. The water on deck and in the cockpit was shed very quickly.

Our other standard procedure in weather that was too bad was, of course, recourse to sea anchors. Heaving to under canvas in a small boat is, in my opinion, to be counted on only as a convenience, and not as an infallible safety measure. The presence of land makes the real difference. Strictly speaking, there is no real safety when the weather is bad and there is land anywhere about. Under those circumstances there is only the one answer: Get away from it!

Having gotten well away from the shoals and tide-rips of argument with that bit of wisdom, I think it time to set my sea anchors and go below while taunts and jibes of opinionated yachtsmen (like myself) whistle through my figurative rigging.



"But, madam, these are not really breeches!"

Publishers' Photo Service

Nassau Harbor may be made the base for a number of interesting cruises to the outlying islands

Some Cruises and Harbors in the Bahamas

Part II—Exploring the Cays and Channels South and East of Nassau

By HENRY HOWARD

WHEN starting to explore the Bahamas I strongly advise buying a complete set of the large and small scale charts from the Hydrographic Office in Washington. They comprise 31 sheets and cost, in all, $10.50. These charts, in most cases, are photographic reproductions of the British charts and are sold at lower prices than the original English edition. While they are a great help, they cannot be implicitly relied upon. In many cases the surveys were made about a hundred years ago and inaccuracies are numerous. Some small cays are omitted and others are shown in untrue relation to one another. This, however, rather adds zest and interest to navigation and is not really serious; fogs and thick weather are almost unknown, and the water is so clear that, unless the sun is in your eyes, you soon learn to judge the depth of the water accurately by its color. Of course, night sailing should never be attempted except in regions which are thoroughly familiar, and exploration of shallow harbors should be carried out in the dinghy or during a rising tide with the sun astern and with the constant use of a sounding pole accurately marked off in feet.

Charts H. O. 26a, 26b, 26c, 26d, and 26e, which must be relied upon principally for navigating, are on the scale of only about ¼-inch to the mile. This makes it difficult to determine the best and most interesting anchorages, especially among the small Exuma Cays, unless more information is available than is contained either on the charts or in the *Coast Pilot*. The alternatives are either to take a local pilot — frequently most unreliable except in the waters close by his home — or gather the information by questioning those familiar with certain districts. With this as a starting point, do your own piloting, which you will find glorious sport. In questioning natives, the greatest care should be used not to ask leading questions as they are apt to give the answer they think you want.

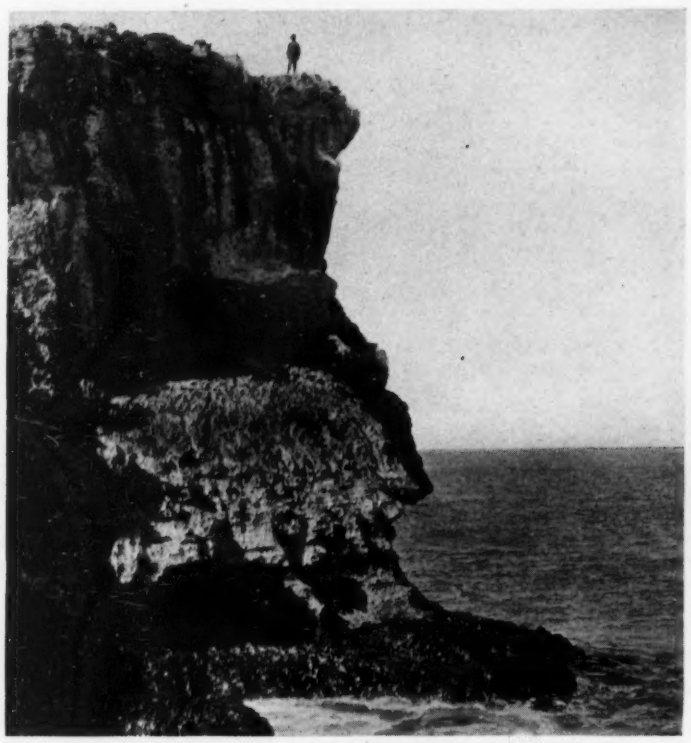
The following information is intended to be supplementary to what is found on the charts published by the Hydrographic Office and in the *West Indies Pilot* (H. O. No. 128).

ROYAL ISLAND HARBOR. This delightful and well-protected anchorage is shown on chart H. O. 1241. It is, perhaps, the best harbor for one's first run from Nassau and can, of course, be reached by going outside from Nassau to Egg Island, which may prove a rough sail. The "white water" route over the banks is much more interesting and the whole distance of 45 miles is in water that is usually smooth.

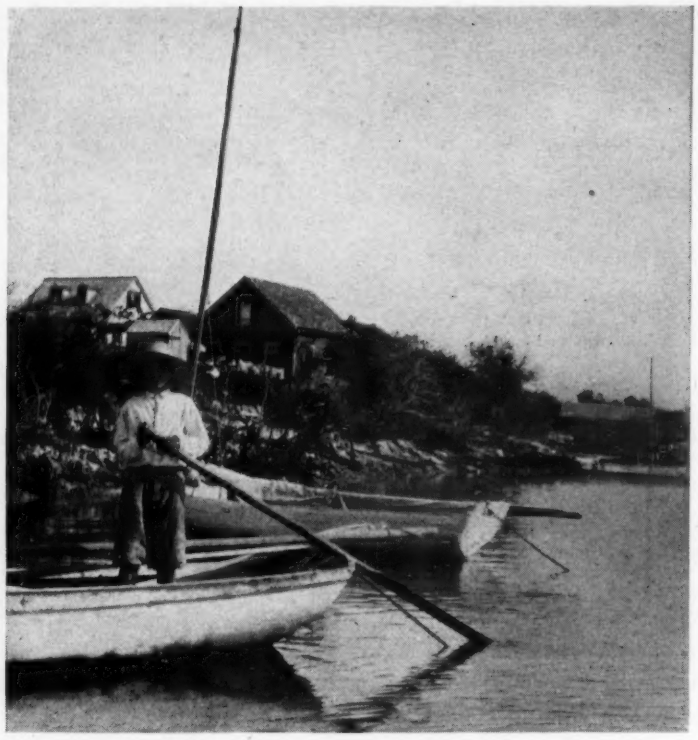
Leave Nassau Harbor by the eastern entrance, between Potter's Cay and Hog Island, heading about ESE¾E to pass about a quarter mile south of Porgee Rocks. Continue on this course about three miles, then steer NE by E until Shannon Light (on the most southwesterly of the Six Shilling Cays) bears about N by E. Then you can run for it and pass either inside the Six Shilling Cays, close to Quintus Rocks (which have two beacons on them) and then inside the Pimlico Islands, or through the main channel and outside Six Shilling Cays and the Pimlico Islands, sailing on the edge of the Bank. Either course will give smooth water with prevailing northeast to southeast winds.

In the event of northwest and westerly winds, you can, if you prefer, go east of Current Island and through Current Cut, through which the flood tide runs strongly to the eastward and the ebb tide just as strongly to the westward. Current Cut is rather a tricky place to navigate but is most interesting and should not be missed.

When approaching from Nassau with the intention of going through from east to west, bring the low headland on Current Island, which lies about three-quarters to one mile southwest of the Cut, to bear about NW and run for it until within about 100 to 200 yards; then follow the shore toward the Cut. This will bring you to a ledge of rocks extending out into the Cut. Follow the southeast edge of this ledge within 100 feet and, after reaching the end, continue on the same



The Glass Window is a striking headland on Eleuthera



The inner harbor of Spanish Wells offers a snug anchorage

course about NE to avoid a shallow reef of considerable extent just north of the end of the ledge, which cannot be seen if the sun is in one's eyes. When beyond the middle of the channel, swing sharply to the northwest and through the Cut, strongly favoring the eastern shore.

There is about six feet at low water in the channel entering the Cut from the south but in the Cut itself the water is several fathoms deep.

Current Settlement is a small but interesting town on the east bank and is the best place to get fresh vegetables, coconuts, fruit, eggs, and chickens, which are raised here for shipment to Nassau. There is an excellent anchorage a quarter mile east of the Cut, in front and just outside of shoals extending easterly from the Settlement landing place. Anchor as far as possible to the northeast to get out of the tide.

After passing through Current Cut, head for Royal Island Harbor and follow directions in the *Coast Pilot* except that the best entrance to the harbor is to the west of the rock lying in the middle of the entrance. The wells mentioned in the *West Indies Pilot* do not, as stated, contain good water. The anchorage indicated on chart H.O. 1241 is in the best holding ground and can be used to ride out a hurricane.

SPANISH WELLS. This is an interesting settlement on George Island about five miles northeasterly from Royal Island Harbor entrance. It consists exclusively of white people — no negroes are allowed to live on the island. The inhabitants are said to be the descendants of New England Tories who fled to Canada after the American Revolution and were later given land in the Bahamas by the British Government.

There is a small boat harbor between Charles Island and George Island where the local boats lie, and each one has its own special niche cut out in the mangroves on Charles Island in which the boat is securely fastened when a hurricane is approaching.

This anchorage is not suitable for boats of any size, and the best anchorage is in nine to twelve feet, about 150 yards off the entrance between Russell Island and Charles Island. The holding ground is excellent and the anchorage is ideal in a norther. The shallow bank indicated as extending southward from the eastern half of Russell Island does not exist. Instead of one to three feet, as stated, there is eight to ten feet at low water. Various supplies may be obtained at Spanish Wells.

HARBOR ISLAND. From Spanish Wells the most interesting trip is to Harbor Island. The channel is intricate and in places dangerous and should never be attempted when there is "a rage on," as the natives say, which means a heavy sea breaking on the shoal places. This may occur with or without wind. It is best to make the passage on the last half of a rising tide. The distance from the anchorage at Spanish Wells to Harbor Island anchorage is about twelve miles.

From anchorage at Spanish Wells, follow Charles Island about 100 yards off the point at the northeast end; then keep on around the shoal about NE to NE by E, following the channel between banks and leaving a small stake on the point of the bank to the southward. Then swing to N and NW, following deep water by its color 100 yards off Gun Point, and gradually swing at 100 yards to NNE, going around the western end of a bar extending 250 yards off Ridley's Head. Then haul to the eastward about 200 yards off the beach and leave marker on iron rod, to the north, close aboard. Then pass *between* an iron spindle with pointer, leaving it to the *south*, and the point of the reef, leaving it to the *north*. Give Bridge Point a good berth, 400 to 500 yards, passing well outside the reef making off this point. Then haul inside the next point of reef when well by Bridge Point. Pass inside the Devil's Back Bone, close to the beach. Then pass 75 yards to the north of a monument on a rock. Then, about ESE to pass 100 yards N by E of Hawk Point. Then, about SE by S between two banks, being guided by the color of the water. When about halfway from Hawk Point to Harbor Island, gradually head for the western end of Harbor Island about S by E, and run until the shallow water of the bank abreast the harbor can be seen, leaving two rocky islets to the west. Turn southward around the western edge of the bank, east along its southern edge and anchor off the town.

Abreast of Bridge Point there is a wide open channel to the sea and either Harbor Island or Spanish Wells may be entered from the sea by steering from Bridge Point on a S or S by W course.

CRUISE TO EXUMA CAYS. On Thursday, January 4th, we were under way at 8:00 a.m., passing out the eastern entrance of Nassau between Potter's Cay and Hog Island, laying a course ESE¾E to pass close to Porgee Rocks. Here we changed our course to SE by E for Ship Channel Cay with all sail set and a fresh breeze forward of the beam. In spite of the shallow water it was quite choppy, but in the warm sunshine we enjoyed the sail immensely and made excellent progress, sighting Ship Channel Cay about noon, when the wind headed and we were obliged to beat the last ten miles, anchoring at 3:00 p.m. in the lee of the southerly point of Ship Channel Cay.

SHIP CHANNEL CAY ANCHORAGE. With the prevailing easterly wind there is a smooth anchorage on the westerly side about one-half mile north of the southerly point. Fair protection in a northwester can be obtained by running into a channel (two to three fathoms) close to the westerly side of the northern half of the Cay, which is protected by a shoal with about six feet of water on it lying to the westward. This is indicated on the chart, and the channel can easily be followed by the color of the water. We explored this channel, entering it just west of two very small cays about one and one-half miles northwesterly from the south point of Ship Channel Cay.

ALLEN'S HARBOR. A beautiful harbor for light draft boats lies only three and one-half miles south of Ship Channel Cay, which is a fine anchorage in a norther. This anchorage is shown without soundings on the large scale chart of Highborn Cut, H.O. 1613. It is much frequented by spongers as a harbor of refuge and is protected from all winds.

The anchorage lies just east of the largest of the Allen Cays, a little less than a quarter mile north of its extreme southerly end and opposite a white sand beach on a small cay one-eighth mile to the east. No soundings are given on the chart, but there is one fathom in white water at low tide with a limited anchorage, close to the white sand beach, of one and one-half to two fathoms.

The entrance from the Banks lying to the west is between the southern end of the longest of the Allen Cays and the northern end of Southwest Allen Cay, with two and one-half to three fathoms. After passing between these points, swing slowly to the north, following the deep water by its color. The channel is quite close to the westerly side of the small cay with the white sand beach which forms the easterly side of the harbor.

Robert Dudley Smith

Cruising under sunny skies, far from the wintry blasts of the North

No mention is made of this harbor in the *West Indies Pilot*, although it is one of the best and most frequently used small boat harbors in this vicinity.

This harbor may also be entered from Highborn Cut by passing in just to the NE of Southwest Allen Cay.

HIGHBORN CAY. The waters around the northerly end are plainly shown by the chart of Highborn Cut, H. O. 1613.

There is another anchorage at the southerly end of the cay where we anchored for a couple of hours, but which we found rather rough. Undertow working around the point from Exuma Sound and a strong tidal current make it an uncomfortable anchorage, although it is a possible refuge in a northwester, from which it is well protected.

To enter, bring the extreme south end of Highborn Cay to bear E by S when about two miles west and run for it on this bearing, which takes you just north of Oyster Cay. Do not enter through this opening but through the next one, about 100 yards to the north, and anchor in two and one-half to three and one-half fathoms so as to swing just clear of the flats in the bight of the south harbor. There is an interesting old stone plantation house now in ruins with a fairly good path running to it from the upper end of the shallow bight.

Passing to the west of rocks and shoals from this anchorage, we ran nine miles to a fine harbor at the southerly end of Norman's Cay.

NORMAN'S CAY. This is one of the most interesting cays we explored. The best anchorage is just east and one-half mile north of its southerly end, in about two fathoms. It is well protected from all winds and there is room for comparatively large vessels to swing. An interesting shallow sound extends several miles up the easterly shore which we explored with the sailing dinghy. This trip should be made during the upper half of the tide. There is said to be excellent bone fishing in these shallow waters. The cay is quite high and apparently has better soil than is usual on these cays. A family of negroes, the sole inhabitants, lives about three miles from the south point. From them fresh vegetables can be obtained.

This harbor is merely indicated on H. O. 26b, which is far from accurate for this territory, both as to soundings, small cays and ledges. Reliance must be placed upon a careful study of the chart and a sharp lookout for "niggerheads" (coral heads) and the color of the water. There is much foul ground within a mile

(*Continued on page 120*)

The Building of "Roon II"

How She Was Made to Suit the Particular Notions of Her Skipper and Mate

WHEN *Roon II* slid into the water at high tide at City Island on the morning of August 7th, 1934, she represented vastly more than five months' work with wood and metal at the yard of her builder. She had her beginning in endless discussions by the Skipper and Mate as they sailed and loafed in *Roon I* and figured, over and over, just what kind of a blue water craft they would like to have "when, as and if."

To start with, they knew with certainty that they wanted the maximum of comfort, ease of handling and safety in a small ketch capable of going anywhere that two people might desire, assuming that these two were reasonably intelligent as to navigation and ordinarily capable in seamanship. Reasonable speed was desirable, but other qualities were far more important than speed if the Skipper and his Mate were to have a boat in which they could live and cruise comfortably as long as they chose.

Roon I had been a three-year training school for a couple of greenhorns. She was a little, short-rigged auxiliary ketch, approximately 30 feet over all, with slightly less than 10 feet of beam and a little less than 4 feet of draft with the centerboard up. She was eminently safe and handy. As the Skipper and his Mate cruised in her, they began to make note of the specifications for their dream ship, and eventually had quite a list.

Then, one night, the handy pencil of the Mate traced an outline of *Roon II*, approximately 37 feet over all, 11 feet, 6 inches beam, 5 feet draft, with the interior accommodations which then seemed desirable. The Skipper got busy and listed some of the more important items to be provided for in the construction. This marked a distinct stage in the evolution of *Roon II*. Months later the sketch and outline went to Sparkman & Stephens, and the designer of *Dorade*, and other notable craft, undertook to provide a hull and rigging of quite different character from anything he had heretofore designed. He found that while his clients knew very little about yachting as practiced by the higher devotees of the art, and even less about racing, they did have pretty well defined ideas of what they hoped to have under them when their ship put to sea.

Olin Stephens did a good job and his final design for *Roon II* when subsequently published in YACHTING was characterized as a "rugged auxiliary cruising ketch." There were two or three different blueprints as the design progressed; the one that finally met approval was for a boat 38 feet 6 inches over all, 32 feet 3 inches water line, beam 11 feet 4 inches, and draft 5 feet 3 inches — dimensions remarkably close to those originally submitted by the Skipper and Mate. Moreover, there was an underbody, cut away and shapely enough to slide through the water and take the seas easily, and yet full enough to hold fairly on the wind. Experts who looked at the blueprints saw this immediately. But it was not until the hull was finished that the Skipper and Mate realized what a thing of beauty and symmetry had been produced.

As she finally emerged from the drafting room, *Roon II* looked like a real boat. She had good height of rail — one of the Skipper's special requests — and a long, narrow cockpit with the mizzenmast stepped forward of it so that the cockpit was entirely clear. The canvas forward was split into forestaysail, jib and jib topsail; the main boom was only 18 feet long and the mizzen boom slightly under 12 feet. The total working sail area was 691 square feet, divided into 358 feet for the mainsail, 155 feet for the mizzen, 96 feet in the jib, and 82 feet in the forestaysail. The jib topsail added 125 square feet. The mainmast was approximately 45 feet from deck to truck, only about five feet more than on *Roon I*. This short rig, with winches on the masts, promised ease of handling under all conditions. The outline for the interior followed the suggestions of the Skipper and Mate closely.

Detailed specifications covering some twenty typewritten pages, together with the blueprints, were submitted to several yards where craft of this kind might be built. Then the estimates began coming in and hopes began to go down as the estimates went up. It looked as if there might not be any *Roon II*, now or ever. Alternative estimates for cheaper construction were offered, but once having been thoroughly convinced of the desirability of good materials, nothing short of the best came in for consideration.

So the quest went on. Estimates were turned back to the builders and revised. Specifications were improved rather than otherwise. Finally, a check to bind the bargain was given to the Kretzer Boat Works who were to build *Roon II* according to the blueprints and specifications, with the interior as desired by the Skipper and Mate. It was up to the latter to provide the engine (which the yard was to install), the sails, and the interior furnishings.

There was a real thrill in watching the boat take shape and every week-end was spent at the yard as the work progressed. The engine had been swung in long before the deck beams had been inserted and its installation was completed as time went on. It was set in a copper drip pan with drain pipe attached, and it had a special water-cooled exhaust. The original notion had been to have a heavy duty, slow speed engine of 15 to 20 horse power, but such an engine proved too large for the available space, aside from costing a good bit too much. The designers' advice was therefore taken, and a Gray 4–40 ordered which, it was figured, could be run at half speed and still put *Roon II* through the water as fast as necessary under ordinary conditions.

The question of a satisfactory dinghy was debated for several months. At one time a collapsible dinghy had been decided upon as the only kind that could be lashed on deck in a small space and carried on long cruises. The question of durability, however, proved the deciding factor. After the cabin top had been installed it was found to be 8 feet wide, so a 7½-foot canvas-covered dinghy was purchased, the plan being to lash it across the cabin top when conditions did not permit towing. This gave a small serviceable boat which would be out of the way on deck and could be quickly slid over the side.

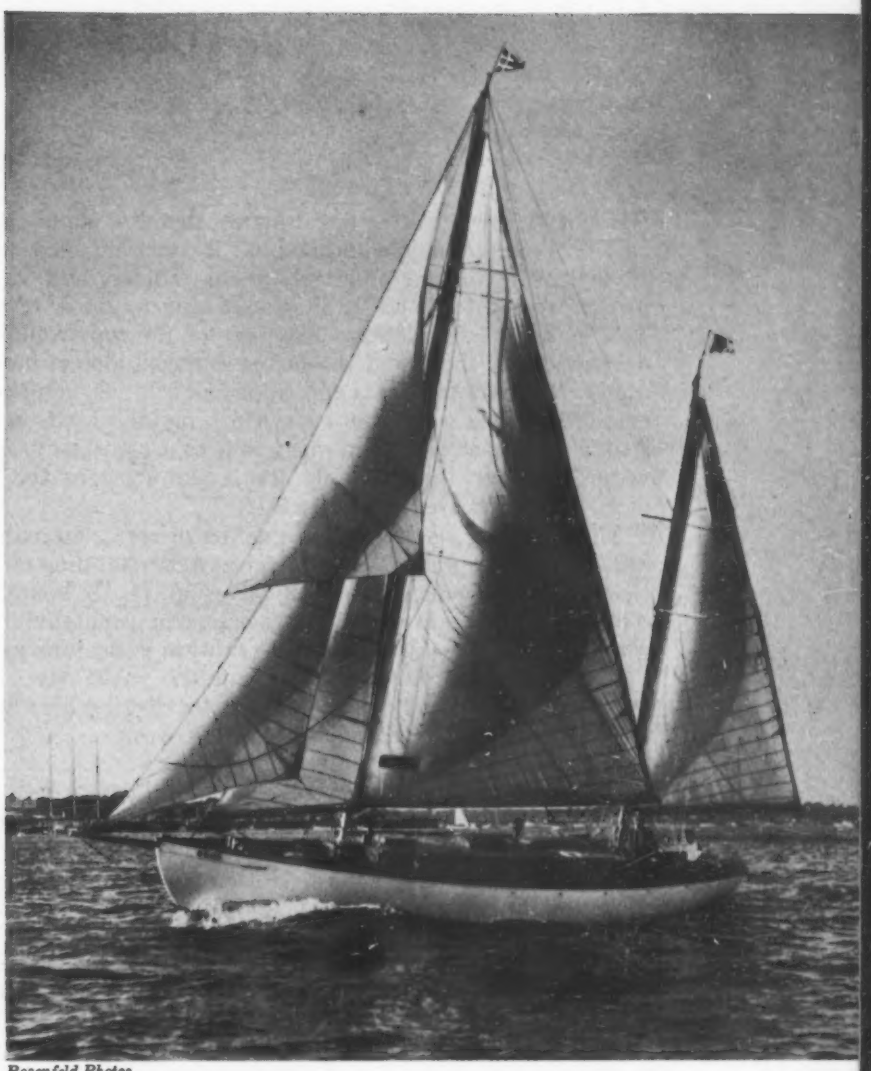
The hoped for delivery date, July 1st, passed with a great deal still to be done. There could not be much fault found, however, because of the realization that soundness of construction was vastly more important than speed when it comes to the building of a boat in which one contemplates living and cruising for long periods of time. The final fixing of the launching date for August 7th caused redoubled activity, both inside and outside, and the last few days were certainly busy ones for all hands, owners as well as the yard force. At the appointed minute of the day of days the holding line was slacked off, the cradle rolled slowly down the track, and the Mate announced, in the spirit of the God of Going, "I christen thee *Roon II*." At the second swing the bottle smashed and the ceremony was completed. Observers said that it was entirely appropriate that it should take two cracks to break the bottle on *Roon II*.

"Roon II"

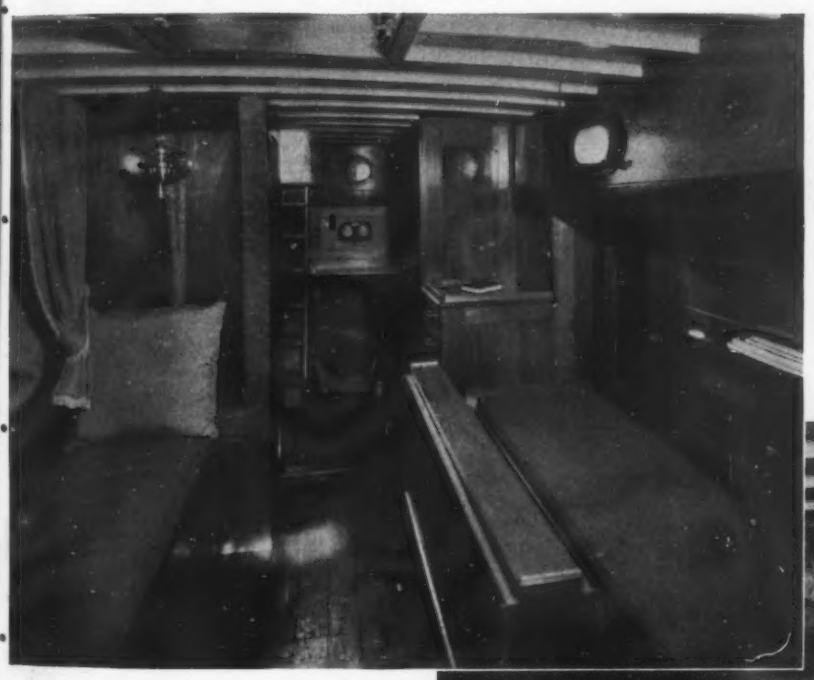
A Rugged Cruising Ketch

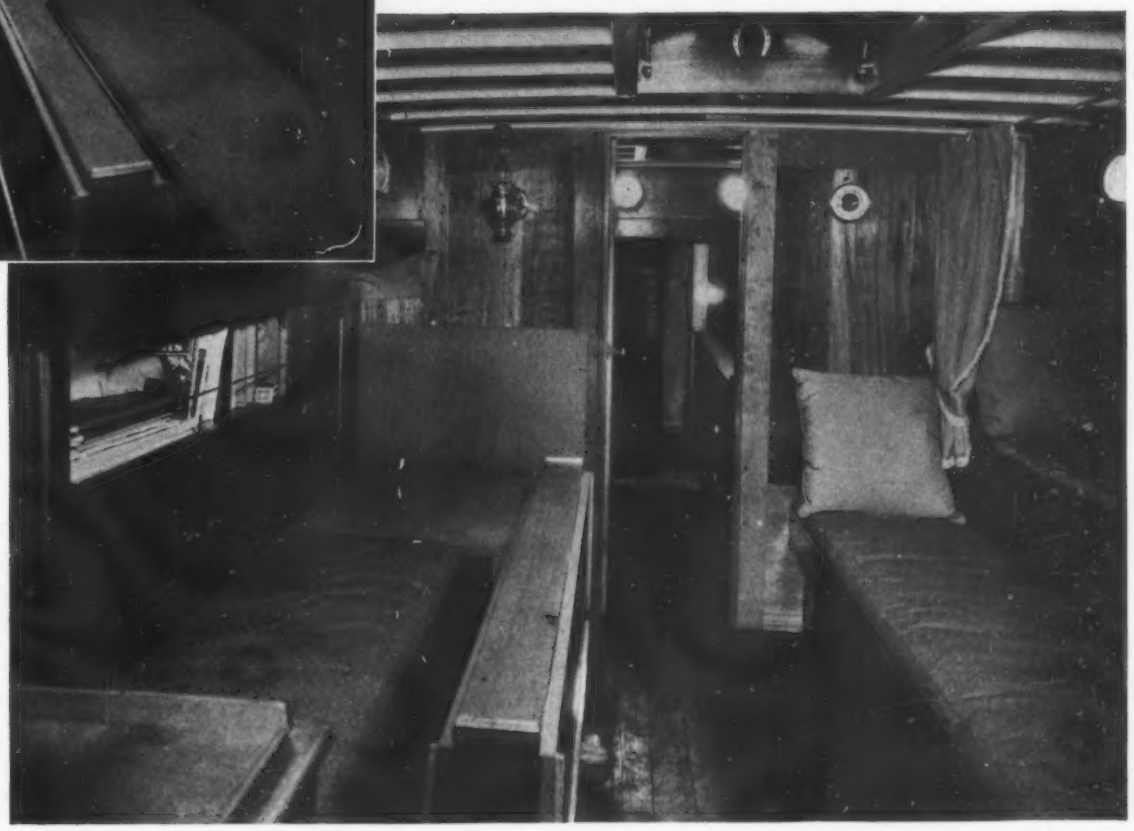
✦

This cruiser was built for R. S. Kellogg of Yonkers, N. Y., from designs by Sparkman & Stephens, Inc. She is 38 feet 6 inches over all, 32 feet 3 inches water line, 11 feet 4 inches beam, 5 feet 3 inches draft. "Roon II" was planned to be a roomy and able small cruiser that would be easy to handle when the owner and his wife were the entire crew. The layout below was the result of three years of cruising experience in an earlier boat. The engine, a Gray 4–40, is installed aft. Plans of the yacht appeared in our March, 1934, issue



Rosenfeld Photos





The Problem of Corrosion

By

GEORGE F. CROUCH

HOW much better and how much more simply and cheaply boats could be built if corrosion, that bane of the naval architect, yacht builder, and yacht owner, were not invariably the result of using metal of any sort in boat construction. The cost of upkeep would be decreased and the life of the boat prolonged almost indefinitely. Not only in yachts and ships and other structures in contact with sea water, but everywhere metal is used, corrosion is always at work and must be fought continually. Sea water, however, intensifies its action and shortens the life of metals which are exposed to it.

Misconceptions as to the true action of corrosion and its causes are widespread. Without a clear understanding of the electrical and chemical causes of corrosion, we are bound to see again and again those costly errors in yacht building which are found rotting and rusting away in every junk yard. Perhaps the most famous of these is the yacht *Sea Call*, which cost approximately $300,000 and ended her life about six weeks after launching because of corrosion. Even the slightest departure from time tried and tested combinations of metals must be most carefully considered from a theoretical standpoint before being given the approval of the engineer in charge of the work.

In these days, when new steels, new alloys and new processes for protecting metals against corrosion are being brought to the attention of the yacht owning and yacht building fraternity, it is necessary for all concerned to be in a position to make their own intelligent decisions as to the advisability of using a new and perhaps better material in place of a time tried one. To be sure, we cannot all be chemists and physicists but we can acquire a certain amount of knowledge about the basic facts of corrosion and its causes. Some of the new alloys are working out splendidly, others are, to say the least, disappointing in the results given by them in service. Before deciding to use some new metal, it will be well to obtain from the engineering department of the company manufacturing it definite guarantees that it will do what you expect it to do *when used as you intend to use it*. A competent engineer is usually a cautious person who takes no chances.

Corrosion is defined as the eating or wasting away of a metal by a chemical change which produces oxides, salts, hydroxides, or similar chemical compounds of the metals. Some of them are soluble in water, others insoluble. If the products of corrosion are soluble and water is present in excess, the metal appears to waste away, gradually becoming smaller and smaller, until it finally disappears completely. But if the products are insoluble, like rust on iron and steel, the metal part which is attacked may seem to increase in size.

Two general types of corrosion are distinguished by most authorities. In the first type there is a direct attack on the metal by the corroding agent, which may be oxygen, any corrosive salt, any alkali or acid. A simple illustration of this form of corrosion: Place a little piece of iron or zinc in a porcelain or glass dish, pour hydrochloric or sulphuric acid upon it. Bubbles form as the acid eats away the metal which soon disappears entirely.

On all metal parts throughout a boat, direct corrosion of this character is going on. If the metals are properly chosen and properly protected, this action should be very slow indeed and is seldom of great importance unless unusual conditions are met with.

If the boat is moored in water much polluted by sewage or which contains the washings from chemical factories, direct corrosion may be serious. An owner who neglects the upkeep of the vessel and protection of the metal by cleaning, painting, or other means, cannot expect long life from the metal parts of the hull which are exposed to the water. It may be well to note that direct exposure to the water itself is not absolutely necessary and that some metals corrode very rapidly while the boat is hauled out on shore because of the action of moist sea air upon them.

Not quite so simple is the second type of corrosion, to which the name "galvanic" corrosion is given. As the name indicates, electrical as well as chemical action is involved. What really happens is that direct chemical action is intensified and localized by the generation of an electric current produced by the immersion of two dissimilar metals in sea water. Many so called "fresh waters" will cause galvanic corrosion because of the impurities dissolved in them.

Chemists have made a table of the various elements and principal alloys according to their electrical polarity. Omitting those elements in which, as engineers and yachtsmen, we are not interested, the table is given below, the first named element being the most electro-positive and the last named the most electro-negative. Any element placed above another is electro-positive with respect to the lower one.

TABLE OF ELECTRICAL POLARITIES

From Electro Positive

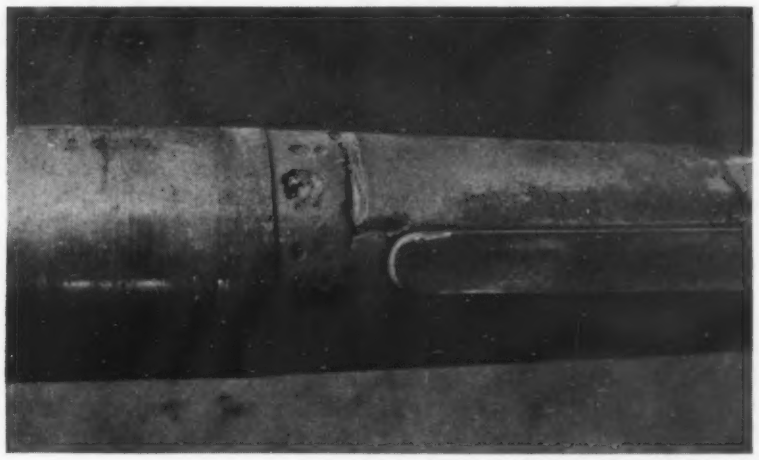
Magnesium
Aluminum
Duralumin
Zinc
Cadmium
Iron
Chromium Iron (Active)
Chromium Nickel Iron (Active)
Solder
Tin
Bronze
Monel Metal
Copper
Chromium Iron (Passive)
Chromium Nickel Iron (Passive)
Silver
Gold
Hydrogen
Carbon
Tungsten
Vanadium
Chromium
Chlorine
Sulphur
Oxygen

To Electro Negative

With the exception of the three elements, tungsten, vanadium, and chromium, those which follow gold are non-metallic in character and, excepting hydrogen, have a strong corrosive action on the metals. Chlorine, sulphur, and oxygen at the electro negative end of the table are most strongly corrosive.

It will be noticed that chromium-iron and chromium-nickel-iron have two positions in the table, depending on whether they are in a so-called "passive" or "active" state. In the passive state, which means nothing other than a state of electrical inertness, these alloys rank next to silver and gold. In the active state, they are but little better than

ordinary iron. Unfortunately, the active state is the more stable one and these alloyed irons or steels tend to revert to the active state, often quite unexpectedly. Immersion of shafts or fittings made of some of the new steels in sea water, when they are placed in contact with copper or any alloy containing copper, such as brass, any bronze or monel metal, tends to change the passive state to the active state.



This is an alloy steel shaft which has been in service just 41 days. This shows the rapidity with which this material will corrode when associated with a copper alloy, in this case a manganese bronze propeller

Below. The tips of this bronze propeller have been eaten away by the corrosive action of air in the propeller race

When any two different metals are immersed in sea water and connected by an electrical conductor other than the water, they form a galvanic cell and generate an electric current which flows in the outside circuit from the electro-negative metal to the electro-positive one and completes the circuit in the water by flowing from the electro-positive metal to the electro-negative one. This is the basic principle of all galvanic corrosion, a complete circuit through which an electrical current flows, caused by the difference in electrical polarity of the metals which are connected. Anything which increases the resistance of this complete circuit, either by increasing the length of the path between the metals in the water or by increasing the resistance in the outside connection, reduces the amount of current. Unless the electrical connection between the two metals is good and unless the metals are fairly close together so as to reduce the resistance of the path in the water, very little current will flow and the effect on corrosion will be small.

When the two metals are actually in contact and are exposed to sea water, the outside circuit for the current is completed through the metals themselves. This path being short and of large area is of low resistance and, with the exposed faces actually touching each other in the water, produces the most dangerous type of galvanic corrosion, for the current is then a maximum. The passage of the galvanic current through the water always liberates a chemically corroding agent at the electro-positive metal where it immediately attacks the metal with a greatly intensified chemical action. The electro-negative metal, on the other hand, is really chemically protected by the galvanic current for the non-corrosive elements in the water are liberated at this metal.

Again referring to the table of electrical polarities, the greater the difference in the table between the metals in contact, the greater the effect on corrosion. For instance, magnesium — sometimes used as the principal ingredient in very light pistons for high speed engines — will last only a few hours when in contact with iron and the two immersed in sea water. When iron and zinc are in contact, zinc suffers corrosion and the iron is definitely given a prolonged life in the immediate vicinity of the zinc.

In general, metals which are grouped together in the table can be associated in sea water without any great danger if the surfaces exposed to the action of the water are moderate in area. The basic reason for this is that within the groups the difference in electrical

Even a lead-covered cable will corrode when it is immersed in bilge water and is carried over bronze bolts

Right. This nut, made of special alloy steel which was fitted behind a manganese bronze propeller shows how this alloy will corrode when it is in an active state

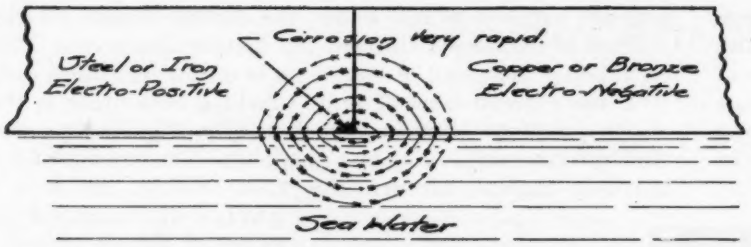
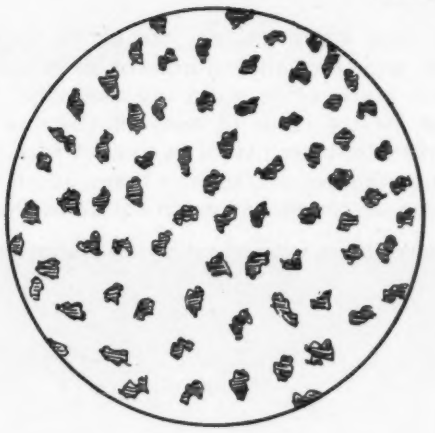


Fig. 1. Arrows show the paths of the electric current through the metal and through the water. Black shows where corrosion is most active



(Right) Fig. 2. Brass greatly magnified to show crystals of zinc (dark) held in uniform alloy of copper and zinc

polarity is small and the current generated has a very low voltage. Measurements of the voltage between manganese bronze and monel metal showed only eight milivolts and the current was therefore very low. Zinc and copper show hundreds of times as much voltage.

The intensity of galvanic corrosion is a function of the amount of the current and not of the voltage. The voltage, however, does affect the amount of current flowing because voltage is needed to overcome the resistance. The amount of current also depends on the areas of the metals exposed to the water. It is particularly dangerous to have a large area of an electro-negative metal in contact with a small area of an electro-positive one, for the electro-positive metal will be corroded with an accelerated intensity. It might be considered that the whole area of the electro-negative metal contributes to the active corrosion of the small area of the electro-positive metal. For instance, iron rivets in brass or monel metal plates eat away with extreme rapidity, while brass rivets in an iron plate will cause some corrosion of the iron in the actual vicinity of the rivet but have practically no effect in accelerating the rate over the total surface of the iron. Brass nails or screws in copper sheathing eat away very rapidly; copper nails last indefinitely even in brass sheathing. Bronze bolts may be used to hold the wood planking to the steel frames in a vessel of composite construction and, if of high quality bronze, will last indefinitely, corroding the frames somewhat where they are in contact with the steel. If, however, bronze frames were used with steel bolts, the steel bolts would disappear in a few months.

Ordinarily, brass is, in general, unsuited for use in salt water as it contains an excess of zinc in the form of minute crystalline zinc particles imbedded in a uniform alloy of copper and zinc. These zinc particles imbedded in the alloy form minute galvanic cells when exposed to sea water and the zinc, being electro-positive in its polarity with respect to the alloy, is rapidly eaten away. This action progresses into the body of a high-zinc brass until the whole mass is porous, soft, and of no value whatever as a strength member. A half-inch bolt so corroded and apparently as good as new can be cut in two with a pen knife almost as easily as a piece of wood. For this reason brass should never be used for plank fastenings under water if the boat is expected to have a life in excess of five years. Sometimes they last; often not.

Bronze, however, if properly alloyed, is a much more durable metal than brass and should be used where corrosion is feared. As a point of interest, it might be well to note that the basic difference between brass and bronze is that brass is an alloy of copper and zinc plus other ingredients, while bronze is an alloy of copper and tin plus other metals. And do not forget that some brasses masquerade as bronzes.

To protect iron, steel, and bronze under water, zinc slabs are often fitted to these parts where corrosion is most severe. These slabs are destroyed by galvanic corrosion, being electro-positive with respect to the other metals, and must be renewed often. But to gain protection these zinc slabs must be in good electrical contact with the metal to be protected.

Aluminum and duralumin should be avoided for under water work. Duralumin has been promoted as having a high resistance to corrosion. This is true to some extent when used alone, but in association with copper or any copper alloy it will not last. Stainless steel, being a chromium-nickel-iron alloy, is splendid for rigging, deck fittings and similar service, but is very little better than ordinary carbon steel when used under water where it is associated with copper or any copper alloy, such as brass or bronze.

Corrosion always accelerates corrosion because the product of corrosion is always electro-negative to its metal, forming a galvanic cell which increases the rate of corrosion. Metals which are kept polished will corrode little. Particular care should be taken in choosing the proper bronze — a time tested alloy — for the bolts which hold the lead keel in place on sail yachts. It is a matter of common knowledge that certain foreign-built yachts used such poor metal for these bolts that they had to be renewed during their second season. Brass bolts or any alloy containing a high zinc percentage are useless for this service.

In a power-driven yacht there are other causes of corrosion than the action of sea water. For instance, fuel oil and gasoline tanks are subject to corrosion because of the action of impurities in the fuel. These are usually of an acid nature. Diesel fuel oil corrodes copper quite rapidly, particularly when left standing in the tanks over the winter. Copper is suitable, however, for gasoline tanks. Diesel engine exhaust pipes corrode rapidly when water is injected into them because the exhaust gas often contains acids of sulphur which are particularly active in attacking copper.

Stray electric currents sometimes reverse the normal polarity of metals and may cause corrosion exactly opposite to that which would be expected, or they may hasten corrosion if the direction of the current is such that the difference of polarities is increased. By creating and using exactly the proper amount of counter-current, galvanic corrosion can be completely neutralized, and advantage is taken of this fact in protecting the under water portions of vessels.

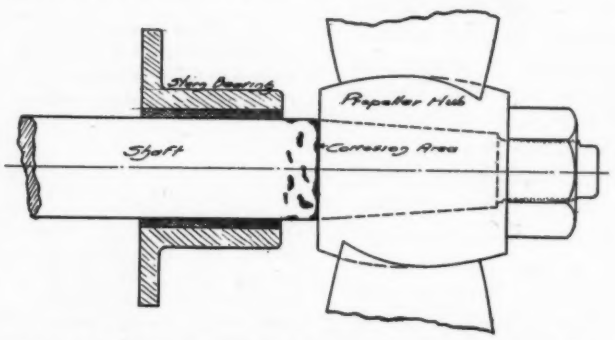


Fig. 3. If the shaft is strongly electro-positive with respect to the material of the propeller — a steel shaft and a manganese bronze propeller — corrosion will be very active over the surface of the shaft forward of the propeller hub

"Hey, Sailor, What D'You Call It?"

In the Course of Events "May Mischief" Acquires a Decidedly Unconventional Rig

"May Mischief" is that paradox, a one-masted yawl

By

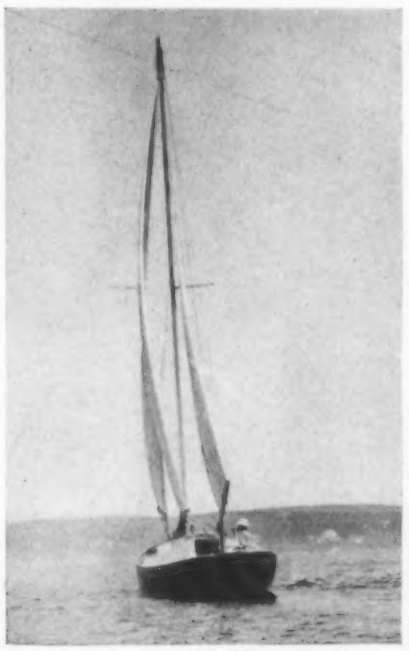
MALCOLM ANGUS MACDUFFIE

A SEAGOING sponsor stove a bottle of firewater neatly on her gammon iron and named her *May Mischief*. A moment later her comely little Winslow-designed hull was waterborne and folks were trooping down to the slip to admire her. The knowing ones studied her sail plan which was laid out on the table. She was to be a jib-headed yawl. Everyone who saw the plans could understand that — some even went so far as to approve. That was in 1933. The summer was about over and neither time nor funds were available for rigging her that season. So we put her on a heavy mooring and went back to work.

During the early winter I fell under the pleasant spell of the Pigeon brothers to whom I had taken my rigging problems. These gentlemen were full of the "after staysail ketch" rig which they had executed and installed in the old *Harvard* for C. H. W. Foster, of Marblehead. They shrugged deprecating shoulders over my sail plan. Fred Pigeon soon had the print white side up and was at work with his pencil. When he had finished I voiced the question that has since become a classic: "What d'you call it?" Obviously, if Mr. Foster's rig is a staysail ketch mine is a staysail yawl.

All sailors are natural conservatives. For a month I fought hard against a growing liking for the new rig. Mr. Foster settled some of my doubts and the Pigeons quieted the rest. It ended by my deciding for the staysail yawl.

Since then I have had a summer's experience with this rig. The most frequent question asked me, aside from "What d'you call it?" is: "Haven't you lost the advantage of the regular yawl rig without any compensating gains?" Here the question undoubtedly refers to the boasted balance of the yawl under a variety of sail combinations. Let me state my honest opinion about the strong points of the yawl rig. I originally favored the jib-headed yawl rig for my small boat for the two reasons which I consider justify its use on small cruising boats. First, the rig may be permanently and efficiently stayed. Second, the main may be comfortably reefed and the boat kept under command while jogging under jib and jigger. With these considerations in mind I am able to say that the staysail yawl rig answers perfectly the demands made on the conventional rig. I have already met a wide range of weather conditions aboard *May Mischief* and have found her able to face them ably under any combination of sail that the occasion seemed to warrant.



The main does not backwind the staysail when close hauled

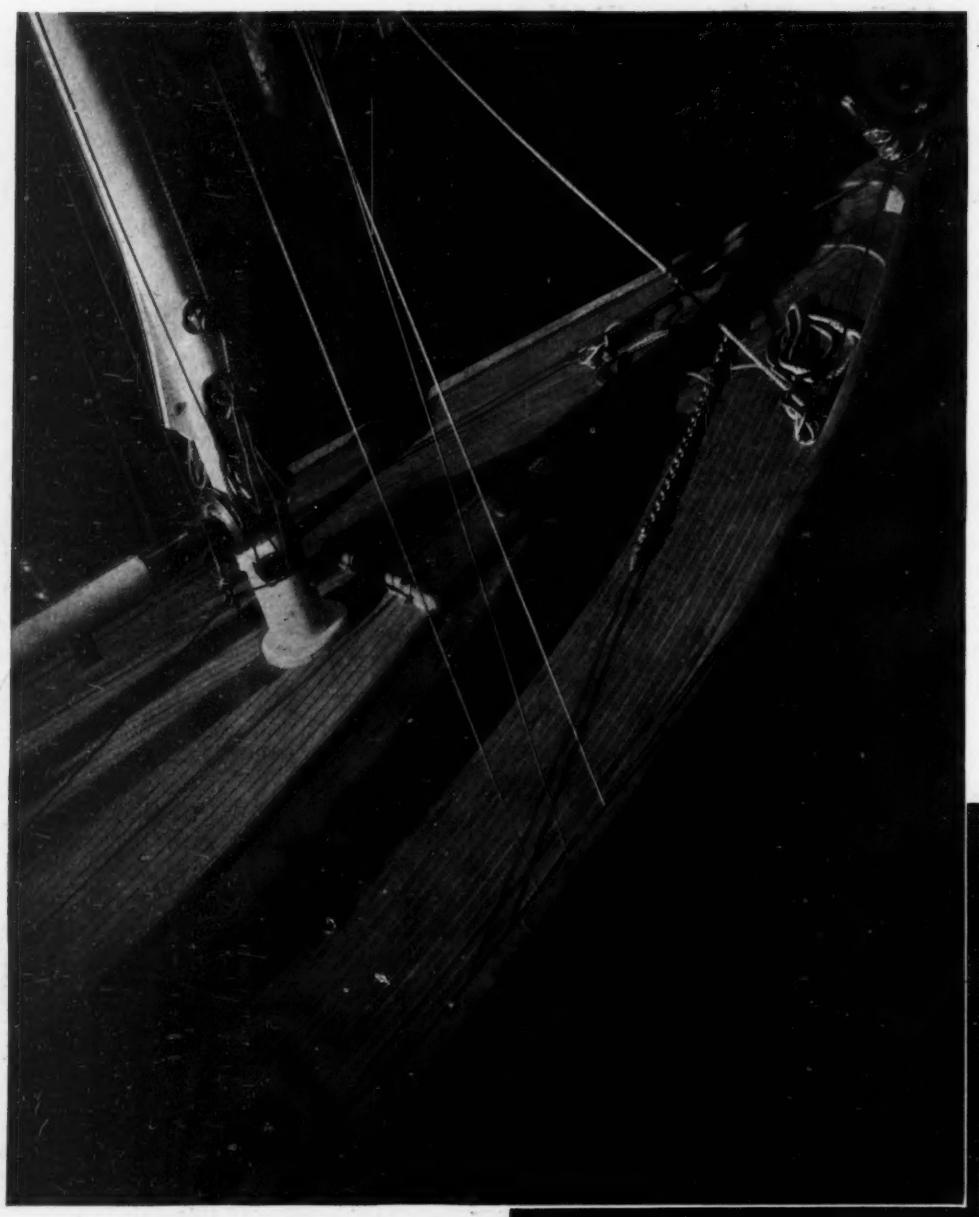
Now for the advantages peculiar to the rig itself. Let me arrange these under a number of headings.

Spars. The staysail yawl rig is, in effect, that paradox, a one-masted yawl. The staysail boom is goosenecked onto a stout stump-mast standing thirty inches above the deck. The backstay upon which the sail is snaphooked passes through a hole in the head of this stump. The gooseneck pivot is on the center line of this runt of a spar. Result, the staysail boom may be swung inboard for bending or unbending the sail, for reefing or furling. I am without the windage of a 22-foot mizzenmast and its gear, which would have encumbered her quarters had I selected the conventional rig.

The considerable rake of the mainmast has a threefold advantage. It helps bring the weight of the heavy mast aft and out of the bows; it preserves the center of the sail plan unchanged in fore and aft position as the main is reefed; it takes the curse off a tall spar carried by a short-ended boat.

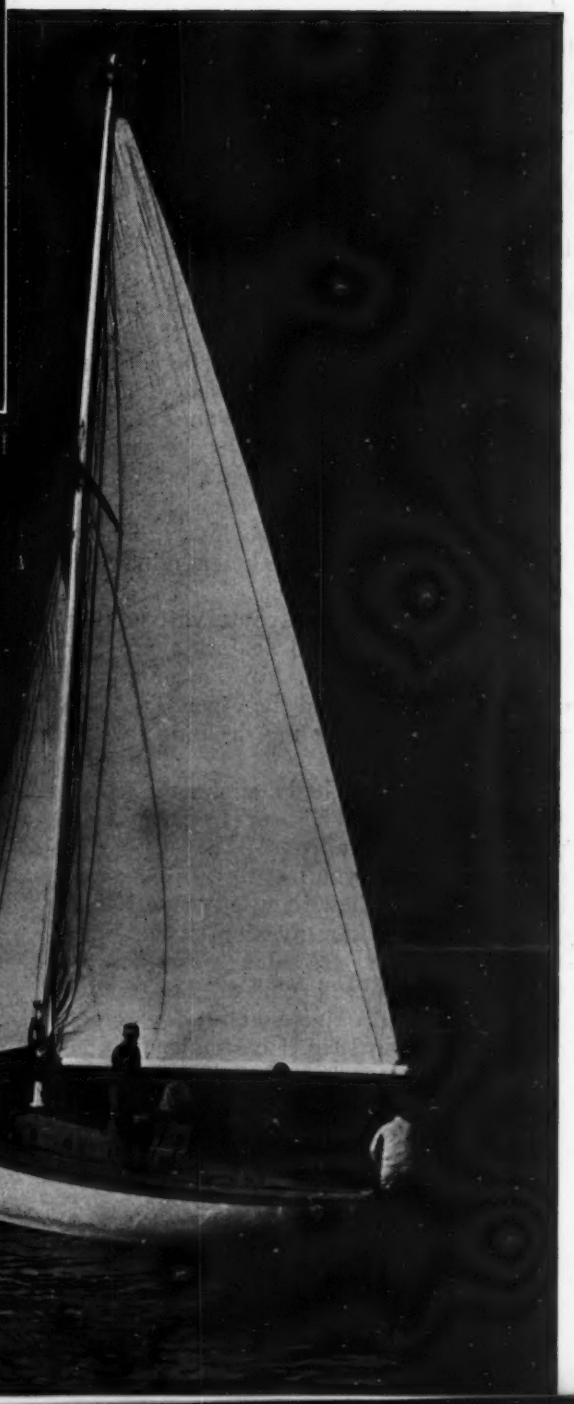
Strength of rig. The backstay, after passing through the head of the stump, is spliced to a turnbuckle which shackles to a long, bronze eyebolt. This sets up with a nut under the boat's transom. A stronger arrangement would be hard to devise. Strangely enough, there seems to be no unusual strain on the stay. This, by the way, is not set up bar taut but for best results is allowed to sag off much as a jibstay does. The stump takes all the thrust.

(*Continued on page 126*)



"Barnswallow"

A new and unusual auxiliary sloop owned by Paul Hammond, of New York. Dimensions: Length over all, 40 feet; water line, 30 feet; beam, 10½ feet; draft, 5 feet 1 inch; sail area, 585 square feet in working sails



"Barnswallow" was built ten miles from the water in a barn on Mr. Hammond's place on Long Island. Her owner says it took one and one-half men parts of three years to complete her, and cost fifty dollars to transport her to salt water. Her name is, therefore, appropriate

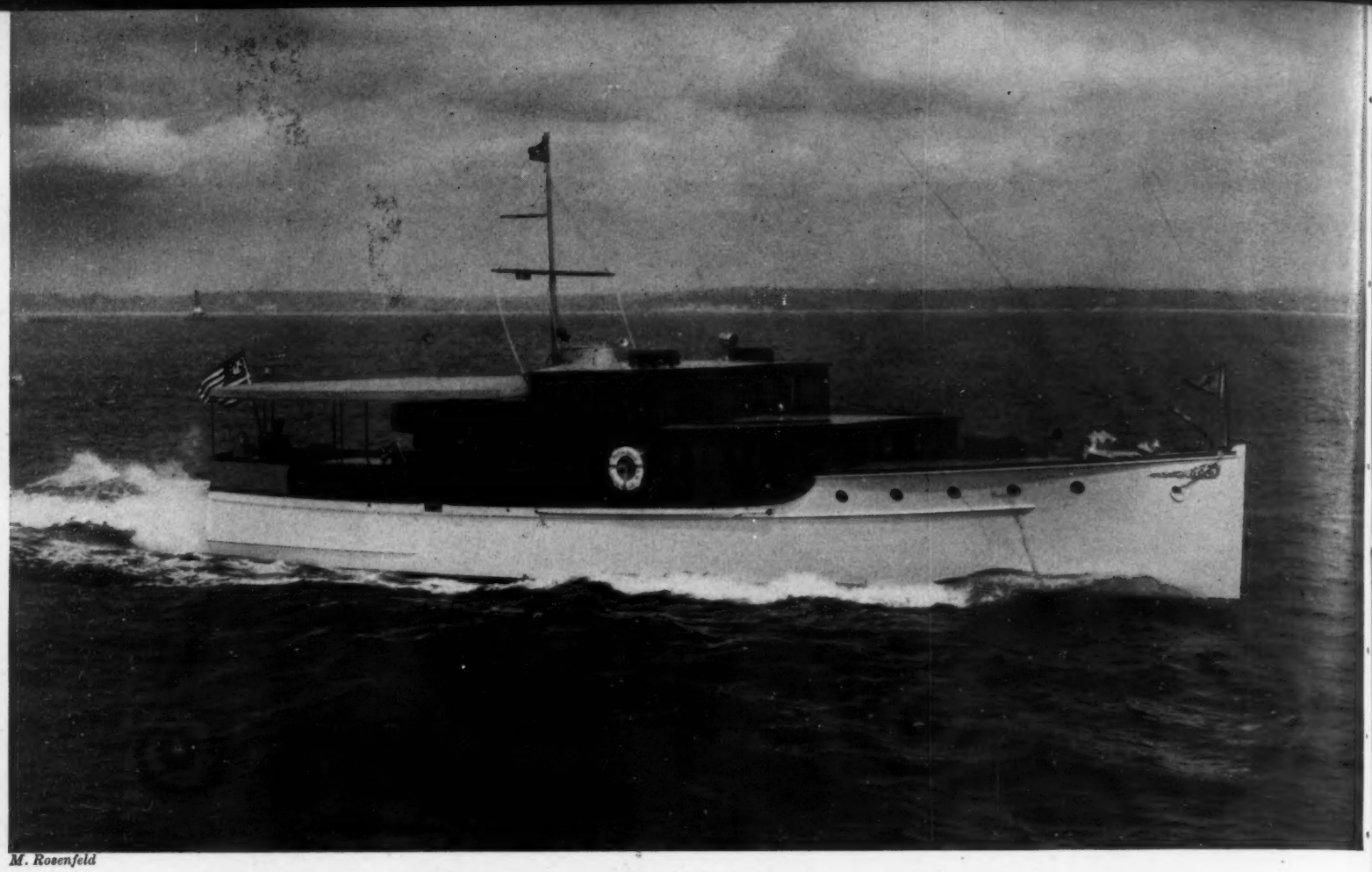
Photographs by Sigurd Fischer

In building "Barnswallow" Paul Hammond has apparently achieved his objectives, namely, a moderate draft cruiser of unusual ability and a boat which can be handled by one man under all conditions. Several persons are responsible for her design. She is an overgrown child of Elihu Root's "Dormouse," being half again as large as that famous little craft. Her hull design is by Starling Burgess and Elihu Root, while the rest of her was developed by Philip L. Rhodes, and, of course, the owner.

Moderate draft was achieved by using a centerboard, which does not come above the cabin floor. Ease of handling is managed by having all the running gear lead to the cockpit or to winches on top of the after end of the cabin. Even the stockless anchors can be hove up from the cockpit, as each is fitted with a 300-foot stainless steel cable led to winches under the deck on either side of the cockpit, which can be operated while sitting down (see photograph top, left). The roller reefing gear also can be handled by one man without leaving the cockpit.

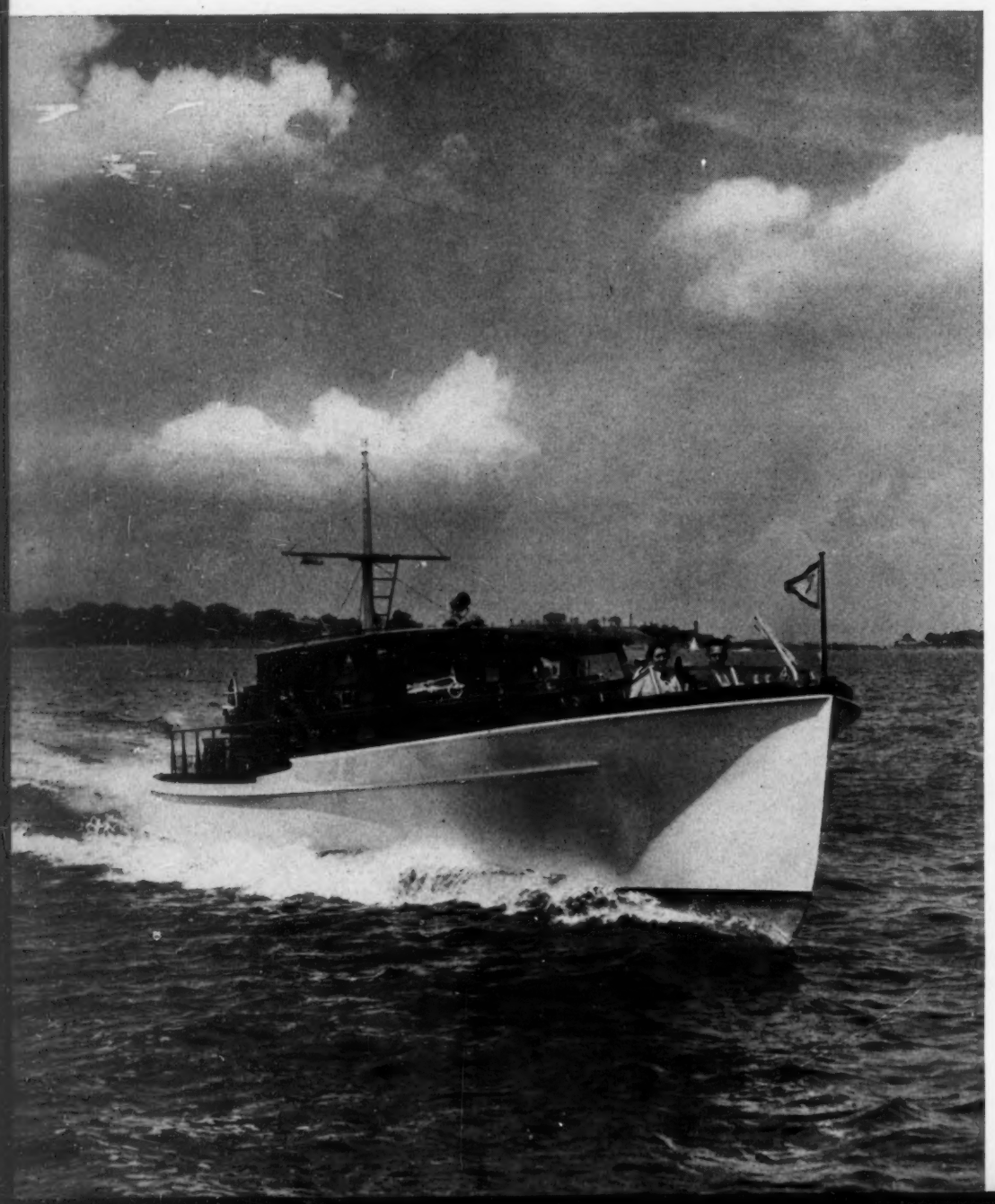
Below deck, "Barnswallow" is unique and the treatment of bulkheads is attractive. Above may be seen the companionway to the cabin, with a seat on either side at the top of the steps for shelter when water is flying. There is also a wheel steering station here, handy to galley. At the right, top, the low house over these seats is seen, and the arrangement of winches. Below this is a view of the main cabin looking into the forecastle, and the well arranged galley.

Auxiliary power is provided by a 10–20 hp. opposed cylinder Diesel which weighs only 300 pounds and is located under the cockpit floor. It has a one-way clutch and variable pitch propeller. Fuel capacity for 800 miles is provided. The total displacement is about 22,000 pounds, of which about 10,100 is lead ballast.



M. Rosenfeld

Two 1934 Custom Built Cruisers by a.c.f.

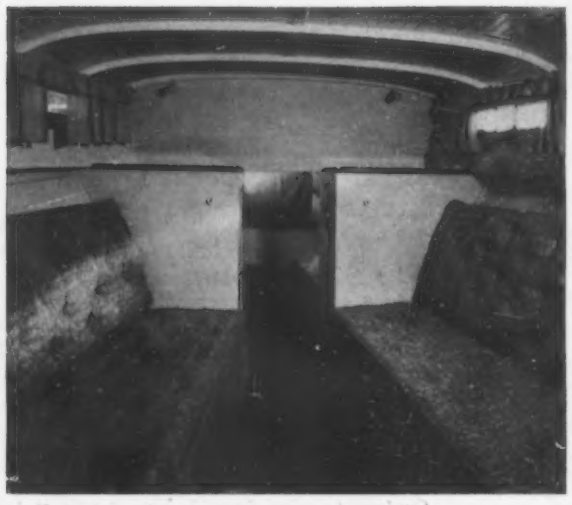


Of the new cruisers launched last year these two by a.c.f. are fine examples of the trend in power cruiser design. At the top is "Miramar," a 68-footer owned by J. B. Wathen Jr., of Louisville, Ky. For use on the Atlantic Coast, she is decidedly able, with the maximum accommodations for a boat of this length. A raised deckhouse amidships, as well as a somewhat lower one forward, make for attractive living quarters. She is equipped with two 175 h.p. Hall-Scott Standards

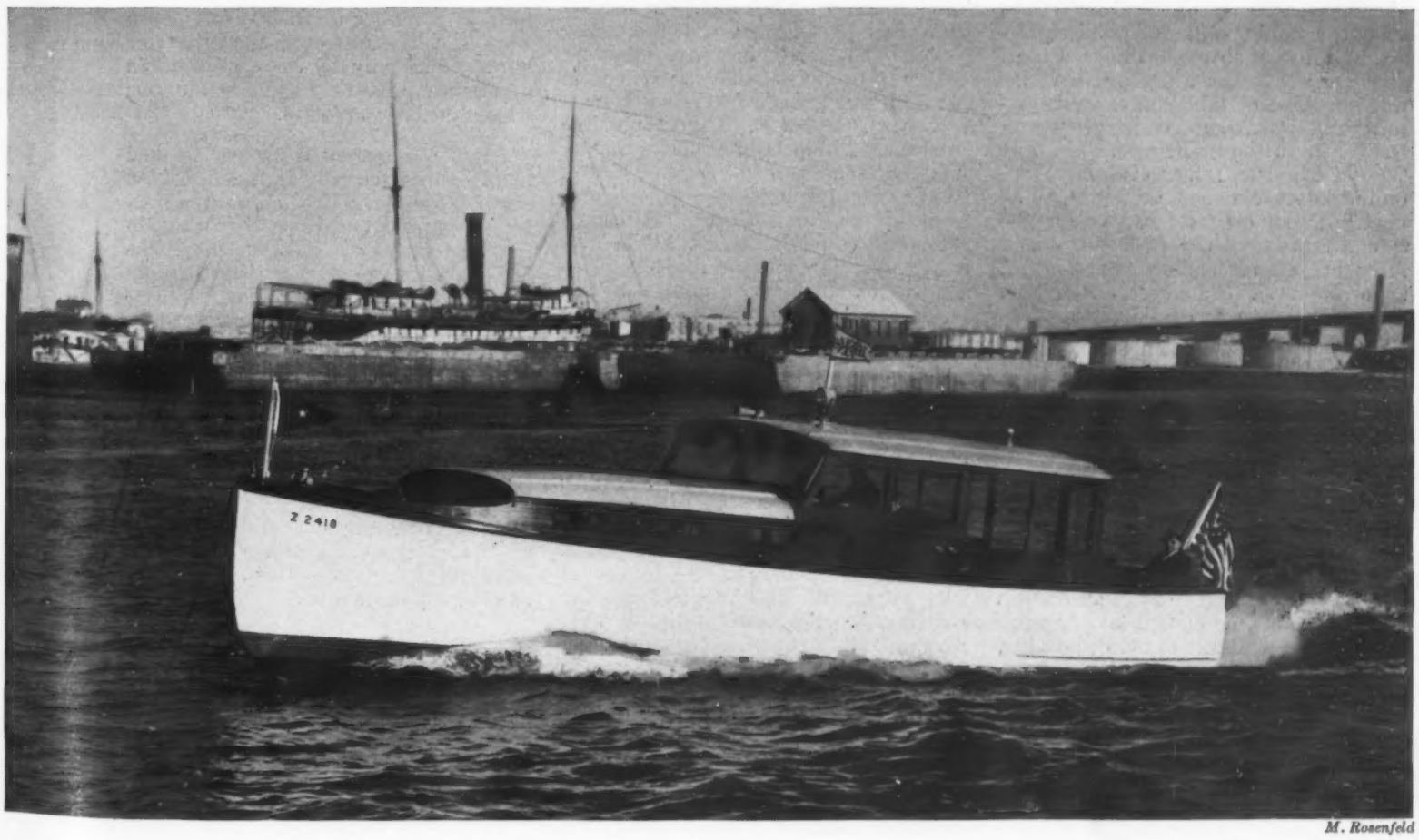
At the left is "Nimrif," a 56-footer designed for offshore swordfishing as well as for cruising and fishing anywhere from Florida to Maine. She is owned by Firman U. Desloge, of New Bedford, Mass. Two Hall-Scott Invaders step her along at a good speed

"Judy"

A New 38-Foot Cruisette for Florida Use



A new 38-footer recently designed and built by the Elco Works for Mr. John F. Welch, is "Judy," now at Miami where her owner will use her for cruising and fishing. "Judy" is of the well-known Cruisette model, and the photographs reproduced here show unusual accommodations on this length. The forward cabin is spacious and well equipped for comfort, and the deck cabin offers additional living quarters for from two to four persons. In the after cockpit a fish box is built in under the after deck. For power, two 65–70 hp. Buda motors give a speed of 17 miles



M. Rosenfeld

IN THE WIND

Confessional

IN the dear dead days beyond recall
When I owned half of a 42-foot yawl
With a 7-foot draft
And a stupendous overhang aft
Not to mention a ripe age of 54 years
(Which occasionally made her the object of jeers)
I berthed in the unevenly pacific waters of Bayside
Where more than once I fell exhausted by the wayside
Owing to the fact I had to row two miles or more
From my ancient *bateau* to the shore
In a frantic effort to consistently commute
To a job in New York in which I was far from astute
And not a bit interested, but the salary was almost enough
To keep my half of the boat in running rigging and other essential stuff.
And I shamelessly admit I came to envy the motor boat
Armada which nestled so cosily near the yacht club float
Where at low tide there was just about six inches of *eau*
And an harassed commuter could *wade* ashore instead of having to *row*.

The 30th Annual National Motor Boat Show is under way, full speed ahead, plowing into the New Year, leaving a boiling wake of public interest. The first affair of the kind occurred about the time the Floradora Sextette was knocking off millionaires on Broadway, and was, figuratively, swung on the davits of the Sportsman's Show at the old Madison Square Garden. Two motor boats chugged around a pool, vied with an expert flycaster for the rapt attention of the cash customers. A 60 hp. marine engine was regarded as a potential Frankenstein. Sixteen miles per hour was considered a dizzy speed afloat. A couple of years later I was to roar around Newport Harbor with Hugh Willoughby at eighteen knots. There was a motor! You couldn't hear yourself spit.

Genial General J. Leslie Kincaid has been appointed treasurer of the A. P. B. A. When the suave, much-decorated ex-warrior isn't literally flying around the country supervising the complicated management of an endless chain of hotels, he finds a bit of leisure to devote to the sport of motor boating. It's an old British custom. Over there, army men are traditionally ardent yachtsmen.

The late Henry C. Rowland, whose last nautical adventure was undertaken aboard his odd little ketch *Mary*, was the affluent author of a raft of best-sellers, but he probably never wrote anything more compelling than a description of crossing the Black Sea in a power boat. From Tawao, Borneo, comes word of the arrival there of the Griswold-Harkness Asiatic Expedition after being adrift for five days without a drop of water in the Celebes Sea, when their engine became disabled. Lawrence T. K. Griswold, William H. Harkness, Legrand Griswold, Potter Dorsay Palmer and B. C. E. Tate sailed from New York last September in a 70-ton fishing schooner, proposing to make an ethnological and photographic tour of the southern Philippines. Palmer was left behind at Manila when the others chartered a small motor boat and set out to visit ports in the Dutch East Indies. Desperate efforts to revive the motor after its untimely demise resulted in the resurrection of one cylinder on which precarious crutch they hobbled in to the Cannibal Isle. If they aren't discouraged by their grim experience the members of the expedition are bound next for Szechwan Province, China, in quest of a bizarre animal known as the giant panda — a raccoon-like carnivore of the Himalayas which has yet to provide a coat for a football game.

That Transatlantic race to Norway has become a probability. Three gluttons for punishment have already pledged themselves to start. They are Walter Barnum with *Brilliant*, Vadim Makaroff with *Vamarie*, George Roosevelt with *Mistress*. Other possible entries are Philip LeBoutellier's *Stormy Weather*, Rod Stephens' *Dorade*, Linton Rigg's picturesque bugeye, *Smith-Brown-Jones*, and George Whiting's *Dauntless*, from Baltimore. Alf Loomis is almost certain to be inveigled into a berth as somebody's navigator and official historian of the Scandinavian Odyssey.

Cliff Mallory is having a new *Bonnie Dundee* constructed at Luders and will be able to fly the old Mallory house flag aboard her. The historic piece of bunting which the Clyde-Mallory Lines graciously returned to a scion of one of the pioneer shipping families in America, dates back nearly a hundred years. Washington Fosdick, in his "Journal of The Voyage of The Sealing Schooner *Emeline*," mentions sighting the ship *Aeronaut* off the entrance to the harbor of Deception Island in the Antarctic in 1843, "flying a flag which had a red ball or star in a white ground with blue border; at the end of the fly, one blue, another of red." The *Aeronaut* was owned by Charles Mallory of Mystic, Connecticut.

Raritan Bay, on which the sight of a sail has been almost as rare as on that inhospitable sea of the Ancient Mariner's, is threatened with a revival of racing as a result of the sudden popularity of the Comets — a neat class of 16-footers created by one of the resourceful Johnsons on Maryland's Eastern Shore. It is rumored that there will soon be a prodigious fleet of these cuties aboard which the junior element will be fouling one another in the most approved international fashion.

Alan Villiers arrived last month in his full-rigged ship, *Joseph Conrad*. He has a crew of ten men and twenty youngsters who are sailing as cadets, or apprentices. Mr. Villiers, whose writings are familiar to readers of YACHTING, is bound round the world. On her departure from this port the ship is to pass through the Straits of Magellan and thereafter to follow the route of Captain James Cook, discoverer of New Zealand. Mr. Villiers' acquisition of his vessel was accidental. He had been searching for an old schooner in which to make a voyage to the South Seas, when he glimpsed the lovely square-rigger, then known as the *Georg Stage*, on the Copenhagen waterfront. It was a case of love at first sight.

Captain Bob Bartlett of the *Morrissey* told a hair-raising yarn about a polar bear at a dinner of the *Corinthians* a while ago that was exceeded in terrific implications only by his recital of an experience aboard a Fifth Avenue 'bus which ignored red lights.

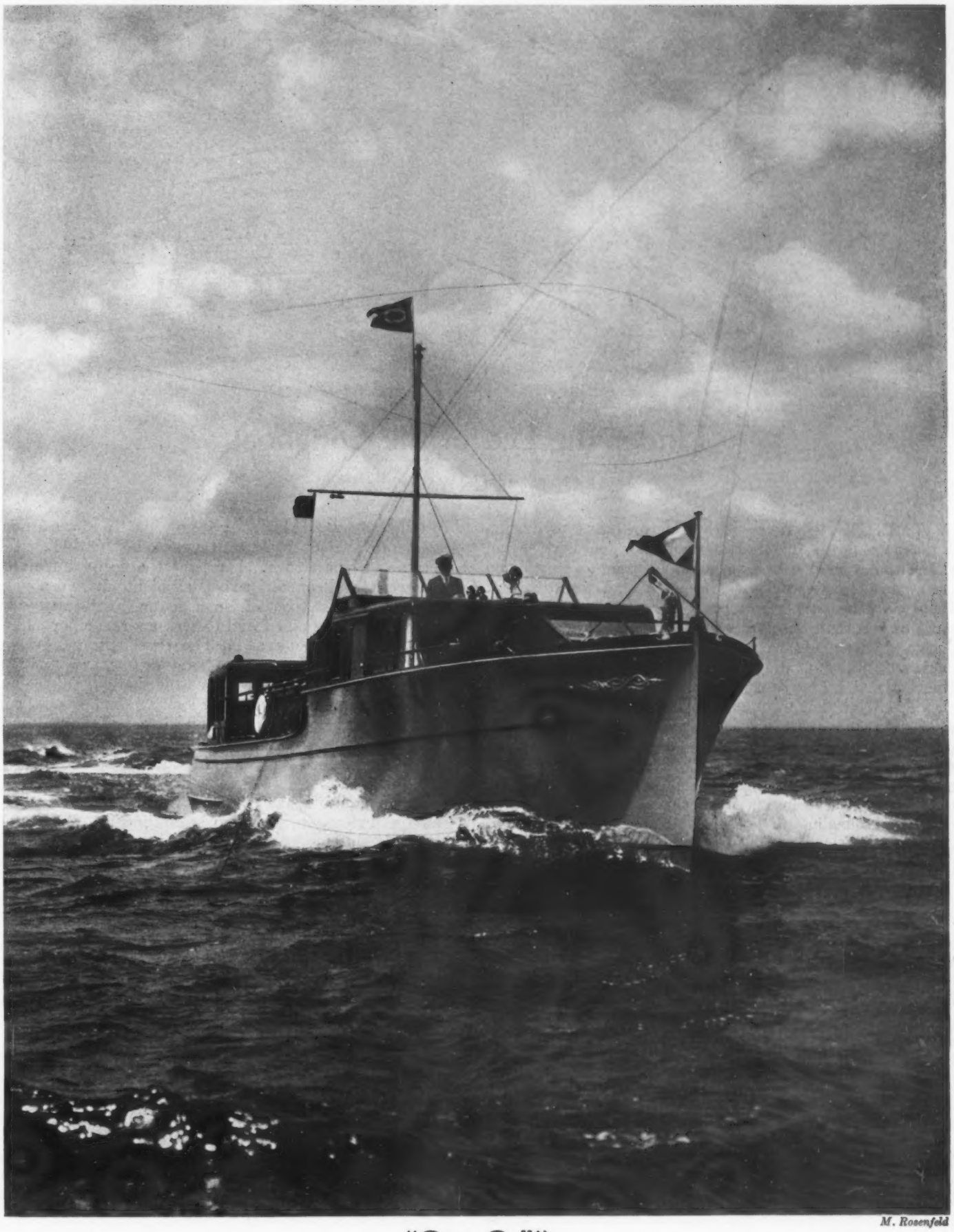
Lorna Whittelsey is at last flanked by an almost equally intrepid maiden who risks chapped lips and a rare roast-beef complexion by participating in frostbite regattas, wherever held. She is Allegra Knapp, who confesses simply that the lure of wintry racing for her is the inevitable clam chowder aftermath. As a matter of fact, there are increasing numbers of hard-boiled (in the nicest sense) gals sailing dinghies this frigid season. Among the seagoing Amazons are Mesdames Norton Conway, Helen Hill, and the Misses Virginia Vanderlip, Sarah Whiting, Marjory Baevier.

A pity there are no eligible mermaids in the matrimonial sea. For reasons anatomical, dressing them would be exceedingly economical.

Two bibulous gentlemen collided in the tap room of a club the other day. "I tell you," one of them said, "I was on the starboard tack. I had the right of way!"

"And I insbist," muttered the other, "you should have met my luff!"

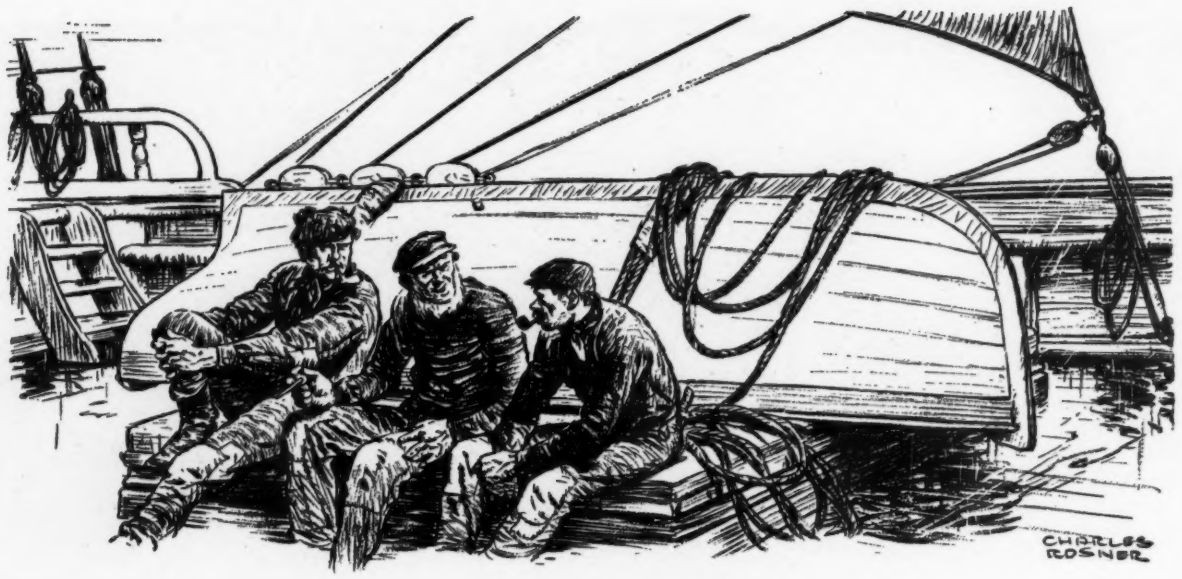
CAPTAIN KIDD



M. Rosenfeld

"Grey Gull"

At its best, power boat cruising offers comfort, speed, ability to go and come in all reasonable weather, and that indefinable something called "class." The "Grey Gull" is a typical example of the fast power yacht of 1934. Designed and built by the Consolidated Shipbuilding Corporation, she is 66 feet in length. Two 300 h.p. 6-cylinder Speedway engines drive her at 23 miles per hour. She is owned by W. S. Carpenter, Jr., of Wilmington, Delaware



Under the Lee of the Longboat

By "SPUN YARN"

MASKING ignorance with silence, I'm contributing nothing to the discussion of the ten best racing skippers; but there's no harm in quoting from a friend who cleans up in a big way now and again on Lake Michigan. He says: "The skipper on a boat, in my opinion, is nothing more or less than an umpire of a low sort. He just has to decide which one of the crew talks the loudest when they are deciding what to do and what sails to set — and believe me I've had some loud talkers. You can ask any crew and they'll tell you that winning a race depends entirely on the crew and that the skipper has practically nothing to do with it. The only reason why you've decided to quit sailing single-handed is that on your last trip the crew didn't have any skipper to blame it on." I should add in explanation that my friend is thinking of the skippers of cruising boats and that he has had little experience with racing machines that are run as a non-profit-making business.

Old Bill Taylor, America's ace yachting reporter, wrote a review of the year's activities in the *Herald Tribune* and touched upon the New York Yacht Club's handling of the Sopwith protests and the public's reaction to it. The subhead for his article ran, in part, "Public Opinion, Backing Sopwith in Protests, Swings to N. Y. Y. C. as Facts Come Out." Bill may now put away his bullet-proof vest. Whether or not he wrote the subhead, the slate is clean for the next stirring defense of the America's Cup, the blue ribbon of the seas, the symbol of international sportsmanship, the tie that binds the great Anglo-Saxon nations in generous rivalry, etc. . . .

The Hydrographic Office recently published a reminder to steamship captains to keep their charts up to date, which gives me my excuse to needle stale beer. Some years ago in the dead of night I entered the St. Johns River on a chart that was then nine years old. The mouth of the river is full of shoals, and there was hardly a pair of range lights or a crossover that hadn't been changed since publication of the chart. It was fun in a way to dope out the situation "free hand" from the light list, but I added a few gray hairs to my head and decided then never to cruise without the latest charts. I'm now something of a fanatic on the subject. If I were shoving off, for instance, from Cape Cod for a straight passage to Yarmouth, N. S., I'd sail on H. O. 941, but I'd have aboard new coast charts for the entire intervening distance, plus a couple for the Bay of Fundy and a couple more for the east coast of Nova Scotia, just in case something went wrong and I had to seek a strange port. In the same connection, not even local charts should be allowed to get out of date, for changes to buoys or to characteristics of lights are frequent. They changed the character of the light on Cornfield Lightship not very long ago, and several competitors in the Huntington-Cornfield race of that year who knew the Sound like a stack of books and who hadn't bought new charts, wasted hours looking for the turning point.

I have a notion that the above will be very old stuff to Captain Irving Johnson, who is girdling the globe in his converted Dutch pilot schooner, the *Yankee*. Johnson is one skipper who started out knowing exactly what it's all about. He didn't believe in a seagoing Santa Claus and he didn't need a pilot to show him where the ocean was. Also he sent out no requests to oil tankers to hold his hand while he worked down past Hatteras. I understand that his recent experiences include the exploration of uncharted islands in the South Seas, but I'll bet he never rushes blind on to a lee shore, or pilots by intuition where there is published data available. A letter from him dated November 1, from Soerabaya, Java, contains the following interesting information: "The cruise of the *Yankee* has turned out to be just about perfect and has surprised us all. Her sixteen hands are still going strong and we have been out a year now. We were surprised to find that we were the only American yacht that has ever visited Bangkok, and it is such a marvelous place, some forty miles up the Bangkok River, that I should think more yachts would want to go there. Besides, Angkor Wat, over in Indo-China, is really beyond description. We expect to round the Cape of Good Hope in January and be home as close to May 5th as possible, just eighteen months from the time we left." I suppose the *Yankee* will refit shortly after her arrival home and sign up a new amateur crew for another voyage. And boys, if I were twenty-five years younger and if the family didn't have to eat, would I ship with him!

FEBRUARY, 1935

Speed Boat Development in Europe

By

"VITESSE"

Guido Cattaneo holds the 12-litre mile record with a speed of 85.51 m.p.h. made last year by his "Asso"

THE recent changes in the Gold Cup rules are considered by European motor boat racing men as a definite step on the part of America towards associating herself more closely with international sport. But, while the present hull restrictions remain in force, Americans must not be disappointed if there is little foreign competition in this classic series in 1935, for, at the moment, there are no twelve-litre boats in Europe which conform to the Gold Cup rules. All are out-and-out step hydroplanes with gear boxes and, in some cases, superchargers.

However, just as soon as the Gold Cup Committee removes all limitations on hull size and form, so that the class conforms to that recognized by the International Union, rivalry should be keen and American boats could compete in the big European meetings on a level with the foreigner instead of being badly handicapped as was the case at Lake Garda and in Florida.

Americans would also have the opportunity of attacking the world's twelve-litre records. At the moment, Gold Cup boats are capable of something better than sixty, but because of the limitations imposed by the Gold Cup rules it is doubtful if their best speeds with the larger motors will compare next year with those registered in France and Italy.

At the end of 1926 the twelve-litre mile record stood at 63 m.p.h. in the name of Dr. Etchegoin's *Sadi III*, a Picker hydroplane with a Hispano-Suiza motor. The following September the doctor attained 66 m.p.h., and in 1929 increased his speed to 67.2 m.p.h. Thus, for several years, France held this honor.

But in November, 1931, after Italy had made great strides in motor boat racing, Antonio Becchi, who won so handsomely in Florida early last year, registered 68.2 m.p.h. with his *Lia III*. Count Rossi also made an attempt with *Montelera XII* but failed, owing to trouble with his two six-litre 16-cylinder Maserati car units.

In 1933 France hit back. M. Vasseur built *Yzmona* and caused not a little surprise by attaining an average speed of 77.75 m.p.h. on the Seine. Within five months Italians had recaptured the record, Guido Cattaneo, a young engineer at the Isotta factory, countering successfully with the remarkable speed of 85.51 m.p.h. Cattaneo's Baglietto hydroplane *Asso* was powered by an Isotta Fraschini motor boosted to give 470 b.h.p.

The 24-nautical mile record for twelve-litre boats was first established a year ago by Cattaneo with an average speed of 66 m.p.h. Vasseur, with *Yzmona*, has since clocked 77.8 m.p.h. for this distance, a performance better than his previous "mile" figure of 1933, which suggests that *Yzmona's* capabilities have been considerably improved.

From these figures it will be gathered that future American twelve-litre boats will have to skate at well over ninety to get on the record books of the International Motor Yachting Union — a speed which, only six years ago, stood in the name of Gar Wood as the world's unlimited record.

The underbody of "Sans Atout," Italian 1½-litre racer which holds the world's record of 66.91 m.p.h. Notice the new propeller drive and the offset rudder

A Novel Drive Developed

One of the most interesting features in the European design of small inboard hydroplanes during the past year is the employment of an angular drive which allows the propeller to exert a horizontal thrust without the necessity of introducing the double bevel gear system usually found in transom drives.

This new method of transmission is not, of course, original, for it has been employed for some time in model power boats, but it has now been developed in Italy, by the makers of the B.P.M. marine motor, to such a pitch that the remarkable speeds attained in Italian 1½-litre racing boats are said to be largely due to its efficiency.

The common practice in racing craft is either to install the motor forward of the main plane with a direct inclined drive to the propeller, or to locate the motor well aft and transmit the power through a forward gear box. In the one case, the weight is in the wrong place for really high speed work; in the

(*Continued on page 124*)

Yachting

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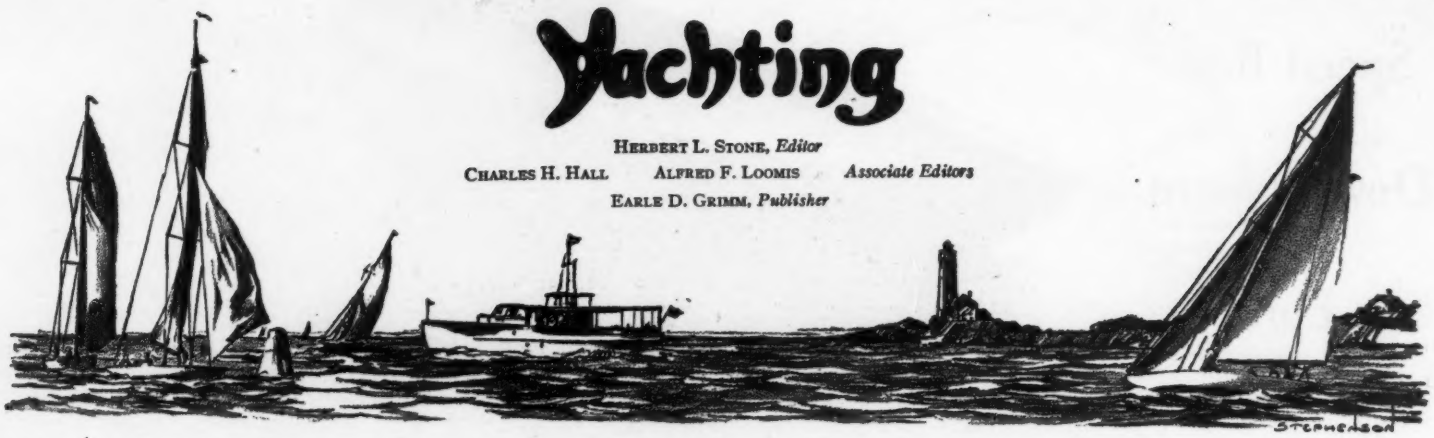


EDITORIAL

N. Y. Y. C. Race Committee Gives Reasons

IN MAKING its report to members, the Race Committee of the New York Yacht Club has given for the first time the reason underlying its refusal to hear Mr. Sopwith's protest in the fourth race of the America's Cup match in September. At that time, it will be remembered, the committee said it could not consider the protest because the protest flag had not been hoisted promptly. This decision not to hear the challenger brought considerable criticism on the heads of the Race Committee, although in some quarters it was upheld.

The Race Committee now says in its report that the reason it denied Mr. Sopwith a hearing on the grounds above mentioned was due to the fact that, from what its members themselves saw of the incident prior to the start of which Mr. Sopwith complained, it felt that *Endeavour* was in the wrong and would have had to be disqualified if the protest had been taken up. The significant portions of the report bearing on this decision follow:

"Your Committee in reaching its decision on *Endeavour's* protests believed that it was its first duty to enforce impartially the rules under which, by mutual agreement, the Match was being conducted. *Endeavour's* delay of approximately three hours in the first instance and of about one hour and three-quarters in the second instance in displaying her protest flag was so glaring a violation of the requirements of Rule 45 that this Committee felt it could not overlook it when to do so would, for the reasons set forth in its decision, have caused a serious injustice *to Rainbow*.

"Having reached the above decision under Racing Rule 45, your Committee was faced with the question of whether or not it should institute an investigation of its own into the incidents covered by the protest. We had power to do so under Racing Rule 47. . . ."

"Your Committee were unanimously of opinion that in the event of a hearing held by them under Rule 47 they would have had to disqualify *Endeavour* for having failed to observe Racing Rule 30 (F), which reads:

> "'When both yachts have the wind free on different sides, and neither can claim the rights of a yacht being overtaken, the yacht which has the wind on the port side shall keep out of the way of the other.'

"*Endeavour's* second protest, covering the luffing incident, which occurred after rounding the first mark, could never have come before your Committee since we would have had to disqualify one of the yachts prior to the start. . . .

"Your Committee believed that it would serve no useful purpose to hold a hearing which, in its opinion, could only have resulted in the disqualification of *Endeavour*, and furthermore that to institute a proceeding on its own initiative where in the language of the Rule it had 'reasonable grounds to believe' that the challenger had fouled the defender and not the defender the challenger, and the defender had not protested, would be regarded by many as indicating an advocacy of the *Rainbow* on the part of a Committee whose sole duty was to enforce impartially the agreed rules of the Race."

That the Committee was sincere in this belief no one who knows its members, Edmund Lang, E. Vail Stebbins and Clinton Mackenzie, will question. They took refuge behind a point of procedure to prevent what would, in their belief, have caused a much more heated controversy, with its inevitable aftermath of hard feeling. This being so, it is too bad that the Committee did not at once state its reasons. Such action might have saved much criticism.

Of course, there was always the danger that Mr. Sopwith would have questioned the propriety of any committee attempting to reach a decision on an incident on which he had made a protest without hearing his side of the case. Even Rule 47 does not give this right; and without establishing the facts from testimony presented by both sides, it is hard to concede that any committee stationed at least a quarter of a mile away is fully competent to judge of all the facts, especially as to the distance the boats were apart. In this particular instance the Committee uses a photograph to uphold its contention. To them the picture seems to prove one thing. To other observers, ourselves included, a close inspection of the photograph tends to leave doubt as to the correctness of their conclusions. Which merely emphasizes the point that, unsupported by facts, any observation made from only one angle may possibly be wrong.

Also, on September 23rd, in reply to Mr. Sopwith's protest, the Committee stated, in commenting on the failure of the challenger to protest promptly, thus giving *Rainbow* a chance to enter a counter protest, ". . . if, after taking testimony, the Race Committee should find that instead of *Rainbow* fouling *Endeavour*, *Endeavour* had fouled *Rainbow*, the committee would be *entirely without power* * to disqualify *Endeavour* and this unfair result would have been brought about by the failure of *Endeavour* to comply with the rule." This is quite different from the view expressed in the Committee's report of December 20th.

The Race Committee has now made its position clear. It is, we trust, the last word in an unfortunate controversy. In spite of the fact that we feel that the best policy at the time would have been to hear both sides and decide the protest on its merits no matter who was hurt, we are sure that the Committee followed a course that its members sincerely believed was the best under the trying circumstances in which they found themselves. Theirs was no easy job.

* The italics are ours.

IN THE WORLD OF YACHTING

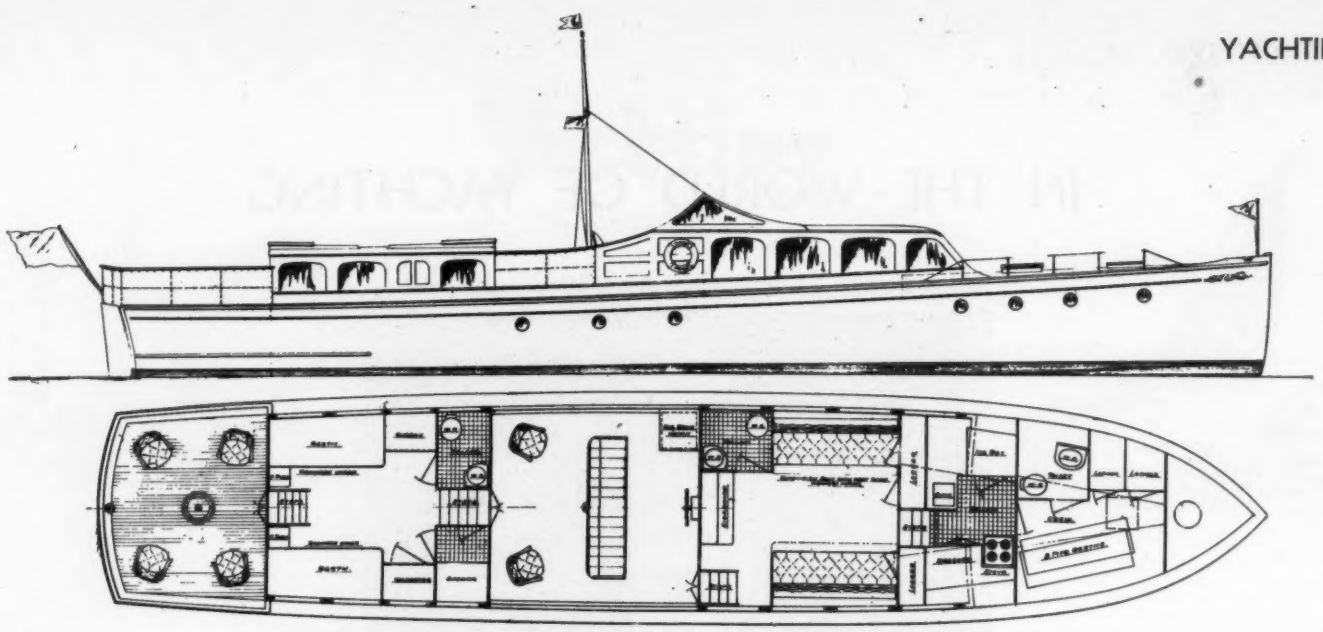
GEORGE W. SUTTON, JR.

HERE we present the new mentor in power boat affairs, George W. Sutton, elected president of the American Power Boat Association at the annual meeting in October. Although new at his present job, he is far from being a novice in power boat affairs, for he has been for many years one of the most active promoters of power boat racing in America, and last year filled the post of Executive Secretary of the A.P.B.A.

George Sutton comes by his boating interest naturally. In the early years of his eventful career, when a native of New Rochelle, he was a keen sailor, and raced in practically all the classes up to the N.Y.Y.C. thirty-footers. He sailed with "Larchmont Bill" Swan as a member of his crew in the trials for the Sonder Class match with German yachtsmen, but for the past twenty years his interest has been with the horse power boats.

There is no more enthusiastic advocate of power boat racing at the present time than George Sutton. Before the war called him to France as an officer in the tank corps, he served on the editorial staffs of several boating and motoring magazines. Even at that early day he was a vigorous advocate of the power cruiser and of power boat racing, and worked hard in the promotion of the latter sport and in placing it upon a more sporting basis. As an indication of his versatility, he has also tried his hand at writing plays and his "Yellow Triangle" received a prize in the Belasco Theatre Tournament of 1925.

To his job as president of the A.P.B.A. Sutton will bring a thorough knowledge of the "game" in all its varied and intricate angles. He is indefatigable in working for what he considers the best interests of sport, and he can also drive or sail a boat with some of the best. The combination of these attributes should prove of value in the work that lies ahead of him.



The raking fronts of house and windshield show a modest tendency towards streamlining

Consolidated's Newest Express Cruiser

THIS NEW motor yacht, designed by Consolidated Shipbuilding Corporation, of Morris Heights, New York, is the latest example of the well known commuter model. She is 65′ 0″ long, 13′ beam and 3′ 6″ draft. The hull is double planked with cedar and the bridge and after cockpit decks are of pine, laid in narrow strakes and caulked while the forward deck is canvas covered. Trunk cabin and sunken deckhouse are of teak, rubbed down to a satin finish. Her sides will be white and the bottom green.

The engines are a pair of Speedways developing 250 h.p. each, giving the yacht a speed of 25 miles an hour. The engines are located below the bridge deck and a complete outfit of auxiliaries is installed. All controls are led to the wheel.

The deckhouse dining room may be used for sleeping quarters, two extension transoms being provided. Aft is a double stateroom with toilet and shower adjoining, while the galley and crew's quarters are forward.

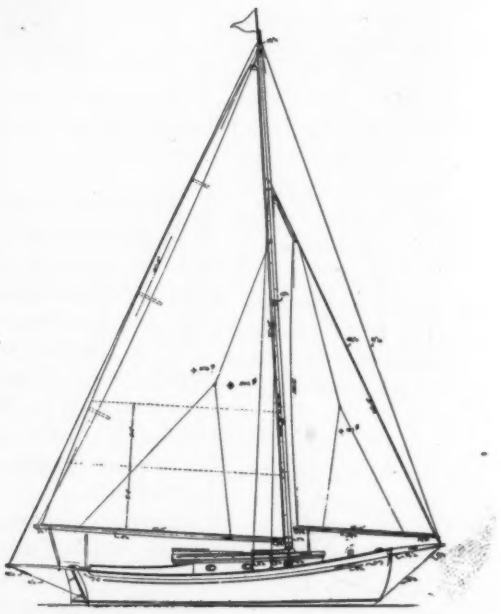
Here's a Neat Auxiliary

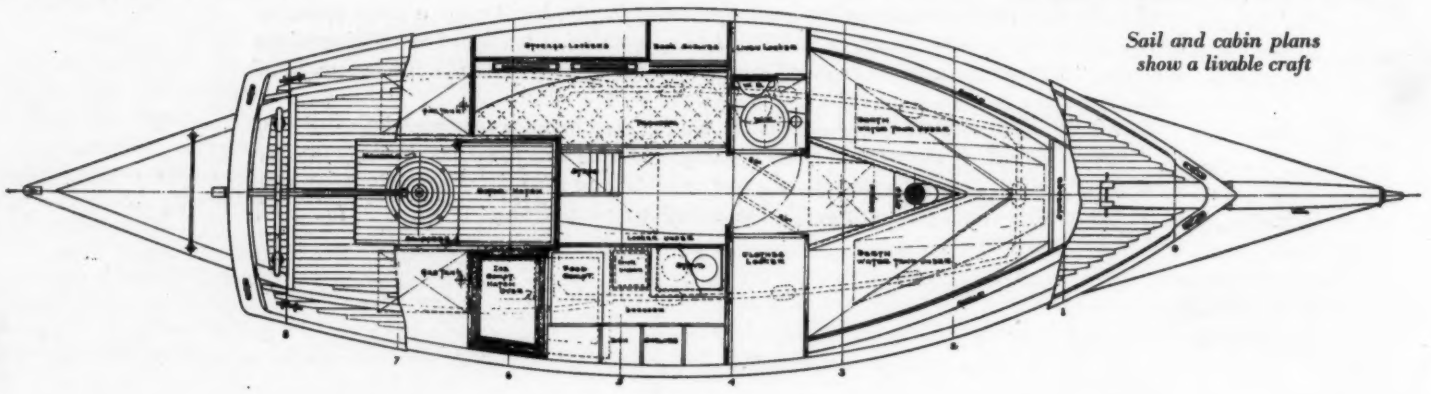
THE BOAT shown on the accompanying plans was designed by Winthrop L. Warner, of Middletown, Connecticut, for a yachtsman residing in New Jersey. She was planned to have good accommodations for two, with a third berth for an occasional guest. Her principal dimensions are: length over all, 25′ 9″; length on water line, 22′ 8″; beam, extreme, 9′ ¾″; draft, 4′ 5″. Her displacement is 12,400 pounds and there is 4000 pounds of lead on her keel.

She is rigged as a Marconi sloop, with a total sail area of 502 square feet. The mast is hollow and fitted with a permanent backstay led to a stout bumpkin. There is a gallows frame aft and all sheets and halliards are led to the cockpit so that the yacht should be extremely easy to handle.

The engine is a Gray 4-20, driving the propeller direct, and is located under the cockpit with a full width hatch, set on a coaming, over it. There is also a removable door in the bulkhead between the cabin and the engine compartment. Under the cockpit seats are the gasoline tanks, of 23 gallons capacity each. The two 30-gallon fresh water tanks are under the berths in the forward stateroom.

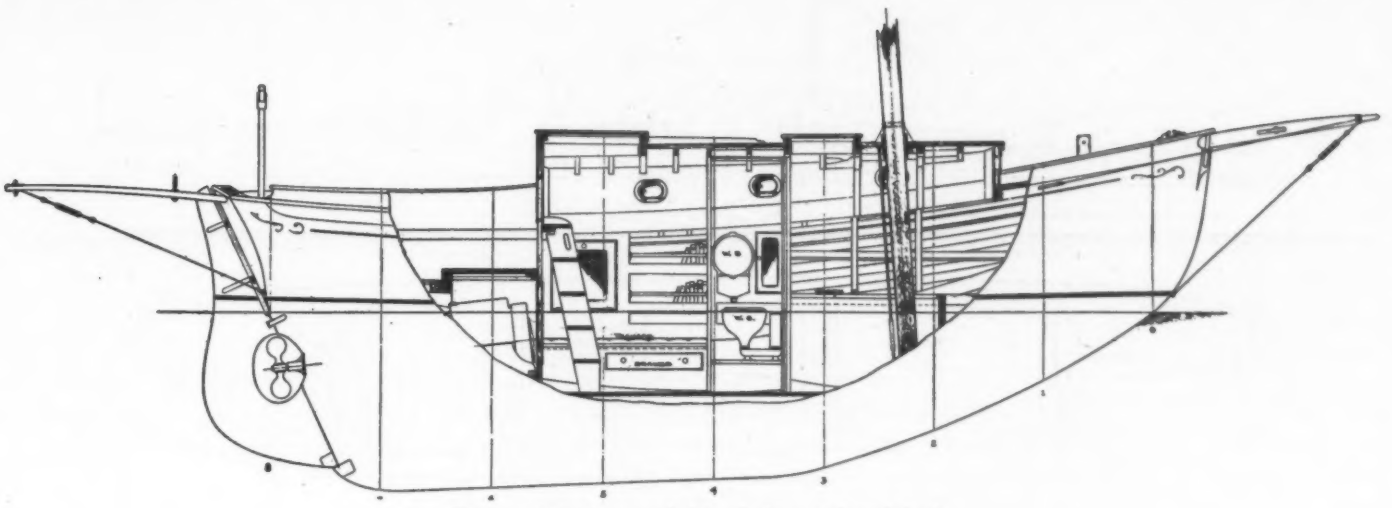
The accommodation plan shows a lot of room for a boat of her size. Forward is a rope locker, abaft which is a double stateroom with a built-in berth on each side. The cabin trunk extends nearly to the forward ends of these berths and there is a hatch in the cabin top over the after part of the room. Next aft is a toilet room, to port, with linen locker, and a hanging locker to starboard.





Sail and cabin plans show a livable craft

The plans reproduced in this section are the property of the designers under whose name they appear. Further information concerning any design should be addressed direct to the naval architect in question.



The new cutter has ample lateral plane and good draft

The doors are arranged so that by swinging the locker door forward and the toilet room door aft, the toilet room extends the full width of the yacht. When the doors are swung outboard, there is a wide passageway between them.

The main cabin has a full length transom berth on the port side, with storage lockers and bookshelves outboard of it. On the starboard side is the galley, with alcohol stove, sink and ice box. The ice box is built with two compartments; the food compartment is accessible through a flush hatch in the top of the galley dresser while the ice compartment is reached through a flush hatch in the starboard cockpit seat, so that ice need not be carried into the cabin.

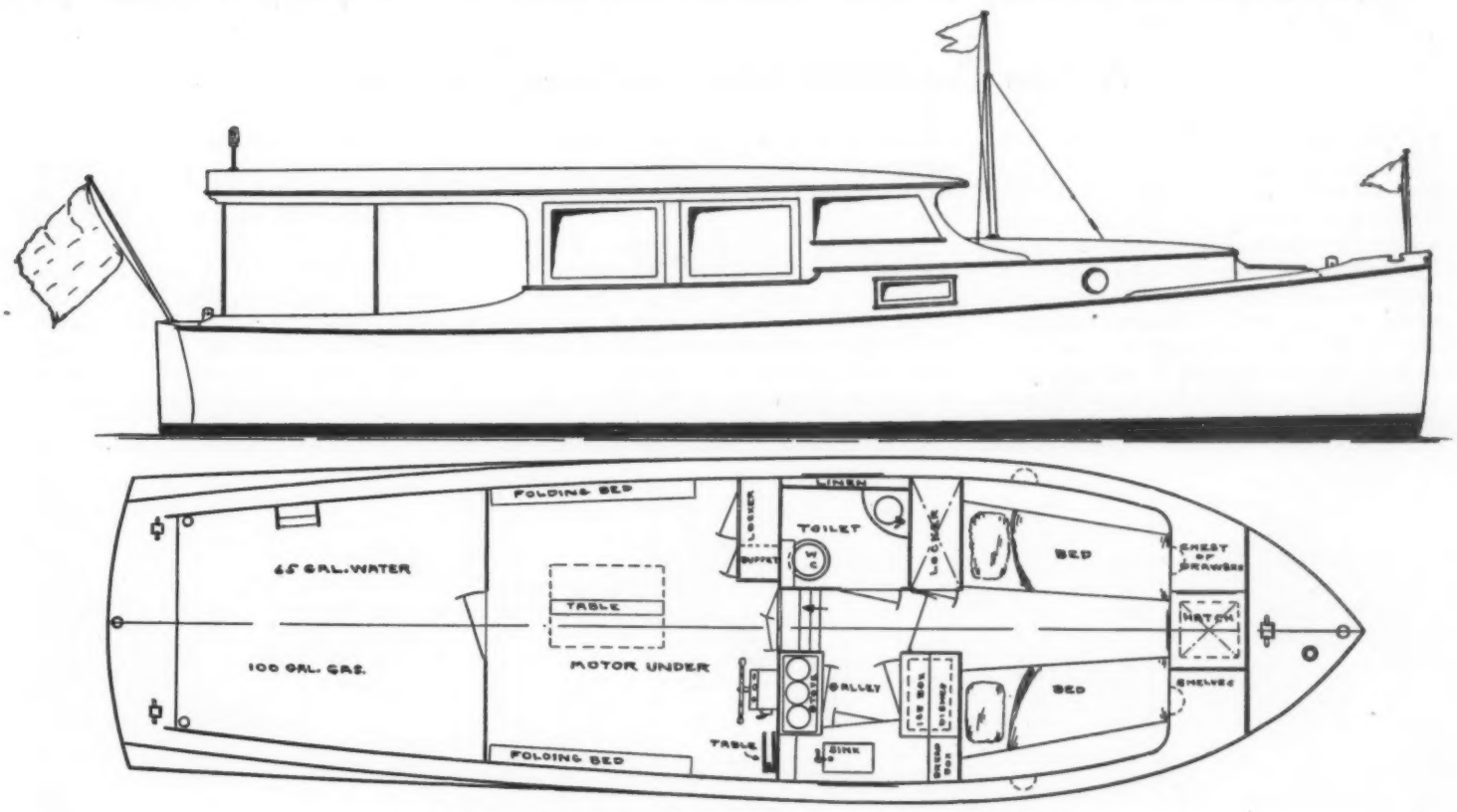
The cockpit is deep and self-bailing, with built-in seats of the same construction as the deck but without crown and at a slightly lower level. There is a storage locker under the after seat.

The Matthews "38" for 1935

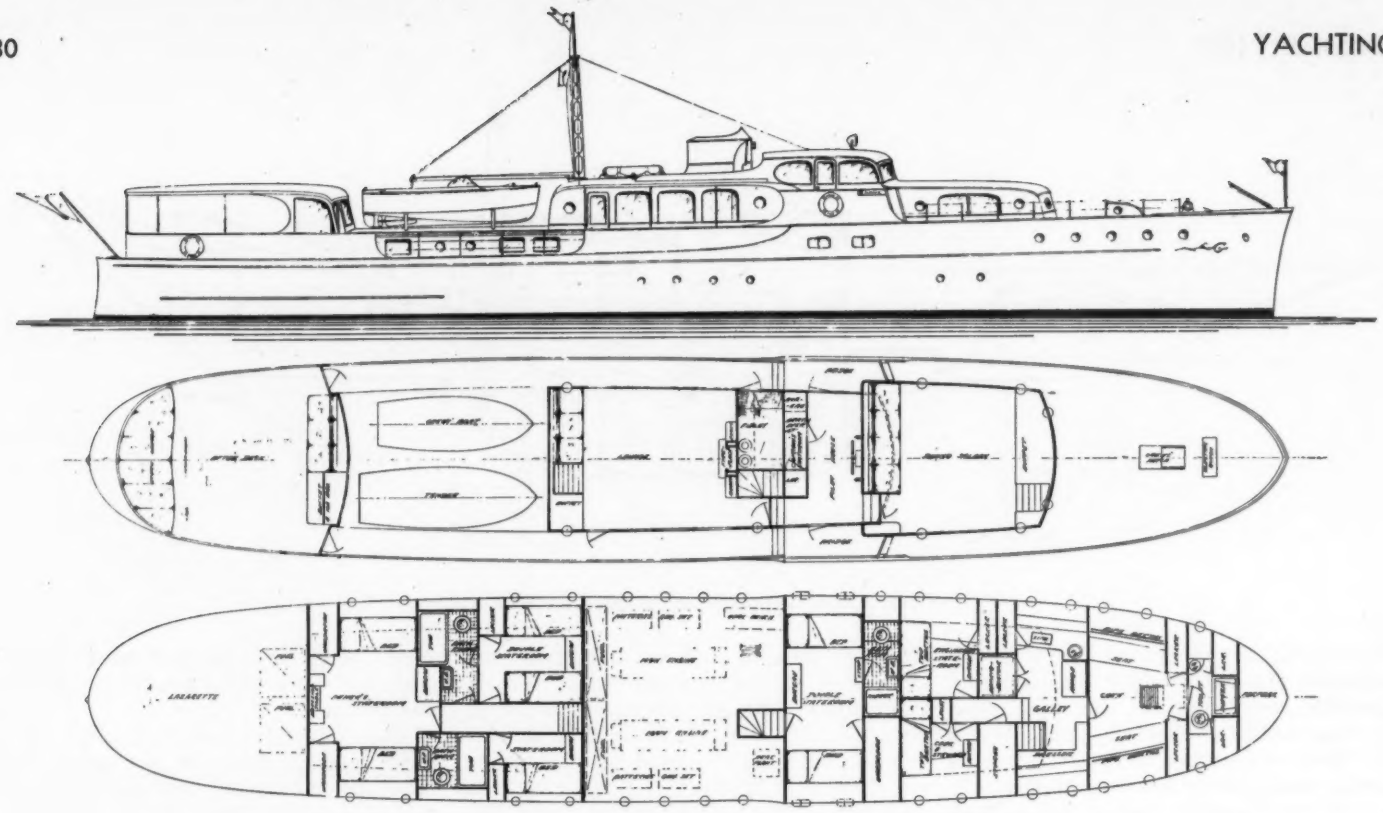
THE 38-footer was, we believe, the first of the well-known family of standardized boats designed and built by the Matthews Company of Port Clinton, Ohio, to be put on the market. The latest member of the family bears a resemblance to the others in external appearance but her interior has been redesigned and many details are new.

The standing roof extends clear aft, but the forward part of it is now bulkheaded off to make a deckhouse fitted with a folding berth each side, a buffet and a hanging locker. Below, the room forward may have two standing berths, as shown, or arranged to sleep four, on transom berths and folding uppers. The galley is aft, to starboard, and the toilet room to port. Windows and ports in the trunk provide light and air.

The standard motor is a single 6-80 Kermath, though single or twin engines of greater power may be installed if desired to attain greater speed.



The latest design of this well-known motor boat adds a room on deck



Outboard profile, deck and cabin plans of the new Diesel yacht

A 100-Foot Diesel Yacht by Grebe

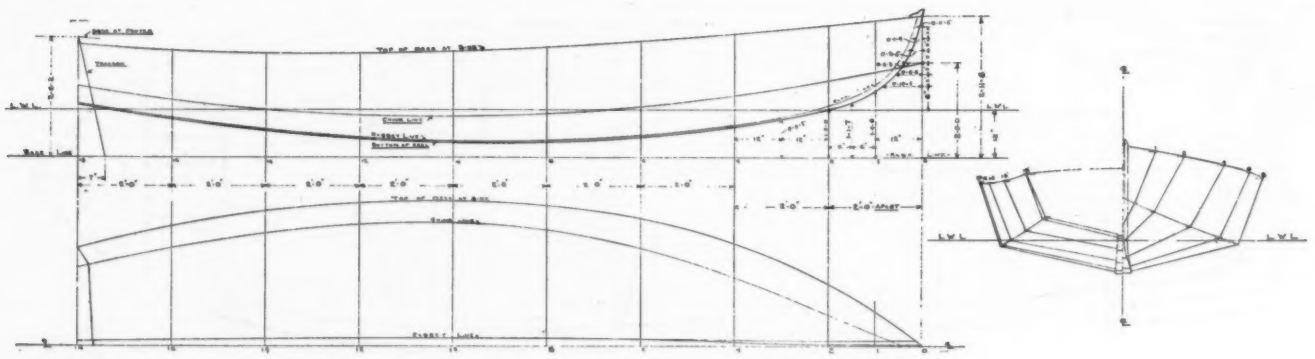
HERE IS a yacht designed to have luxurious accommodations with good speed and seagoing ability. She is 100′ over all, 17′ 6″ l.w.l., and 5′ 6″ draft and is from the boards of Henry C. Grebe & Co., Inc., of Chicago. A pair of Diesels developing 200 hp. each will give her a cruising speed of 14 m.p.h. The fuel capacity of 2200 gallons will provide a cruising radius of 1300 miles. Fresh water capacity is 1500 gallons. The engine room outfit includes two 7½ kw. generating sets, thermo-fan heating and ventilating system, electric pumps, fire extinguishing system, etc.

The yacht has ample deck space and comfortable quarters in the deckhouse consisting of lounge and dining saloon. The captain's room is next to the pilot house. Below, officers and crew are berthed forward, with the galley next, and a double stateroom and a bathroom for guests. Aft, the owner's quarters include two double and one single stateroom and two bathrooms with showers. An inside passageway extends fore and aft the entire length of the yacht.

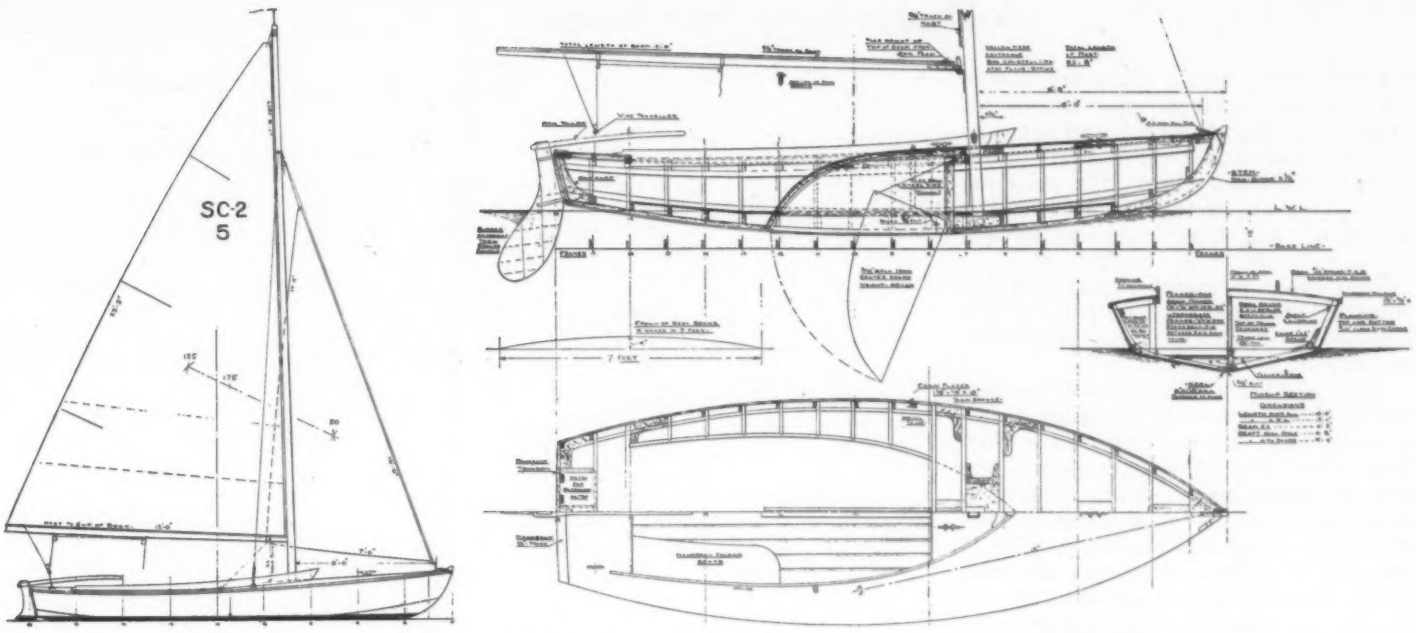
A Trim One-Design Class for Amateur Building

THE SANDUSKY Sailing Club, organized in 1932 and with a membership restricted to those actively interested in sailing, is a live wire outfit affiliated with the I.L.Y.R.A. Under the leadership of Commodore E. A. Robertson, the club has recently decided to promote a one-design class of boats that are to be fast, comfortable and seaworthy, of low cost and suitable for construction by amateur builders. Francis Sweisguth of New York was selected to prepare the design and seven of these boats are now under construction by club members.

The design calls for a boat 18′ 0″ over all, 15′ 0″ l.w.l., 6′ 3″ beam, 8″ draft of hull and 4′ 6″ draft with board down. It is an improvement on an earlier plan to which a number of boats were built. *Hawk*, for example, owned by Arthur Schwartz of the Echo Bay Club, has raced consistently since 1932 and has won a number of flags. She is able, fast and dry. The new boat is slightly longer on the water line, has more flare to the sides, and is a little finer forward and aft. Construction is rugged and simple enough for amateur building. The sail area is 175 square feet as against 136 on the original boat. The rig is well balanced and the new boats should do well in competition.



The lines are easy and the little boats should be fast and able



The boats carry a well balanced rig, and the construction is simple enough for the average amateur builder

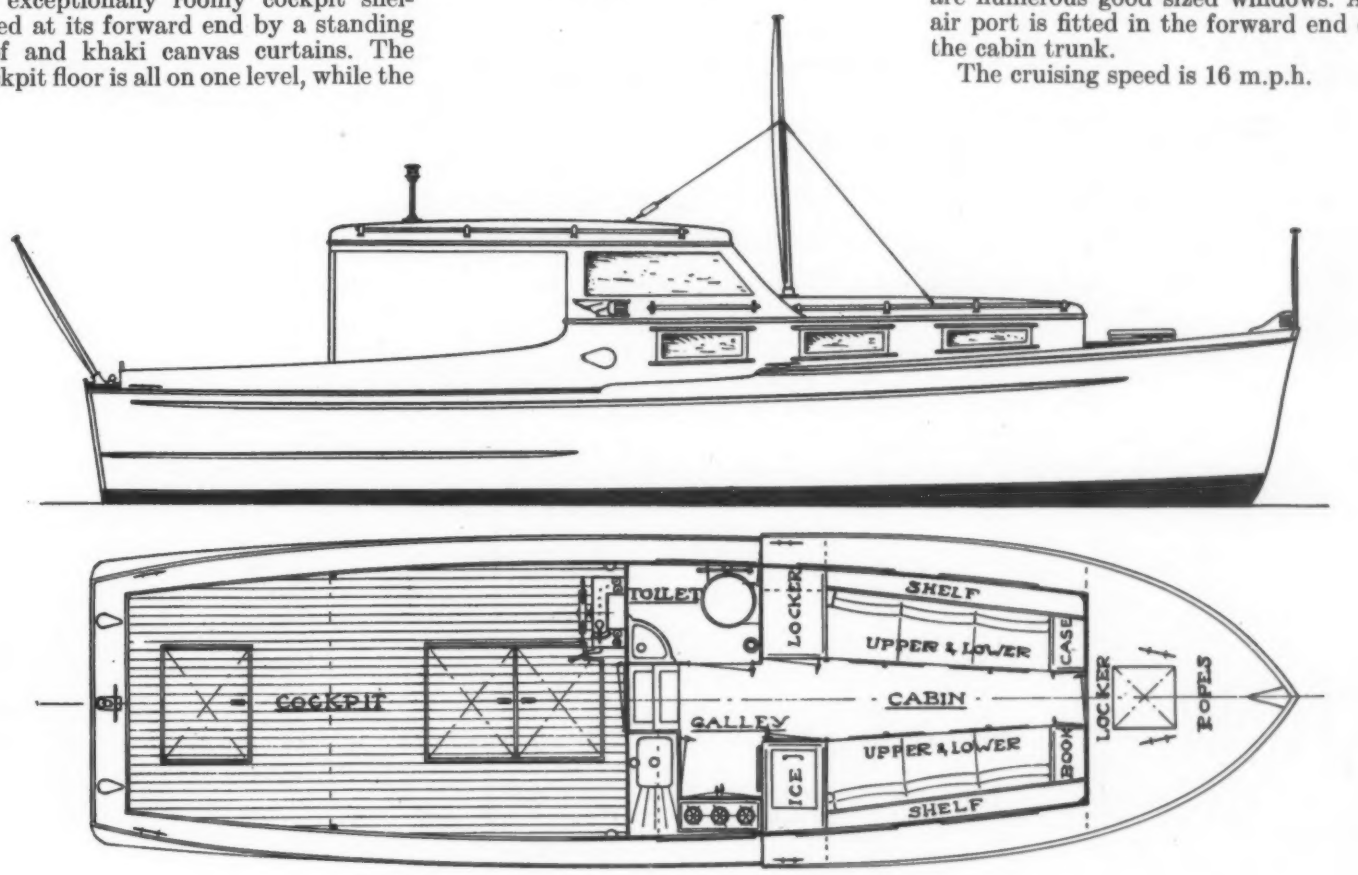
The a.c.f. Show Boat, a 34-footer

BRAND NEW this season, though thoroughly tested in service, is this new cruiser designed and built by the American Car and Foundry Company of New York. She is 34′ long and 9′ 6″ beam, a single screw vessel that is designed for service as a cruiser but with plenty of room for use as a day boat. She is of the trunk cabin type and has an exceptionally roomy cockpit sheltered at its forward end by a standing roof and khaki canvas curtains. The cockpit floor is all on one level, while the forward part of it, when enclosed with khaki curtains, makes an extra room.

The engine, a Chrysler Crown reduction gear machine, is under the cockpit with large flush hatches over it. Another hatch aft gives access to the steering gear and to the lazarette. A hatch forward will be found useful when handling lines in rough weather as there is a platform below on which one may stand instead of on deck.

The cabin is laid out with upper and lower berths, bookcases and lockers. Aft is a compact galley, with ice box, sink, drainboard and alcohol range with its tank outside. Opposite is the toilet room with the usual fixtures. There is plenty of light and air below as there are numerous good sized windows. An air port is fitted in the forward end of the cabin trunk.

The cruising speed is 16 m.p.h.



This a.c.f. 34-footer is on exhibition at the Motor Boat Show

A Double-Ender from Boston

THE yacht whose plans are shown herewith is from the boards of Belknap & Paine, naval architects of Boston, and was built for Hamilton Brown of Salem, Mass. Her principal dimensions are as follows: length over all, 34′ 0″; length on water line, 29′ 0″; beam, extreme, 11′ 7″; draft, 6′ 2″.

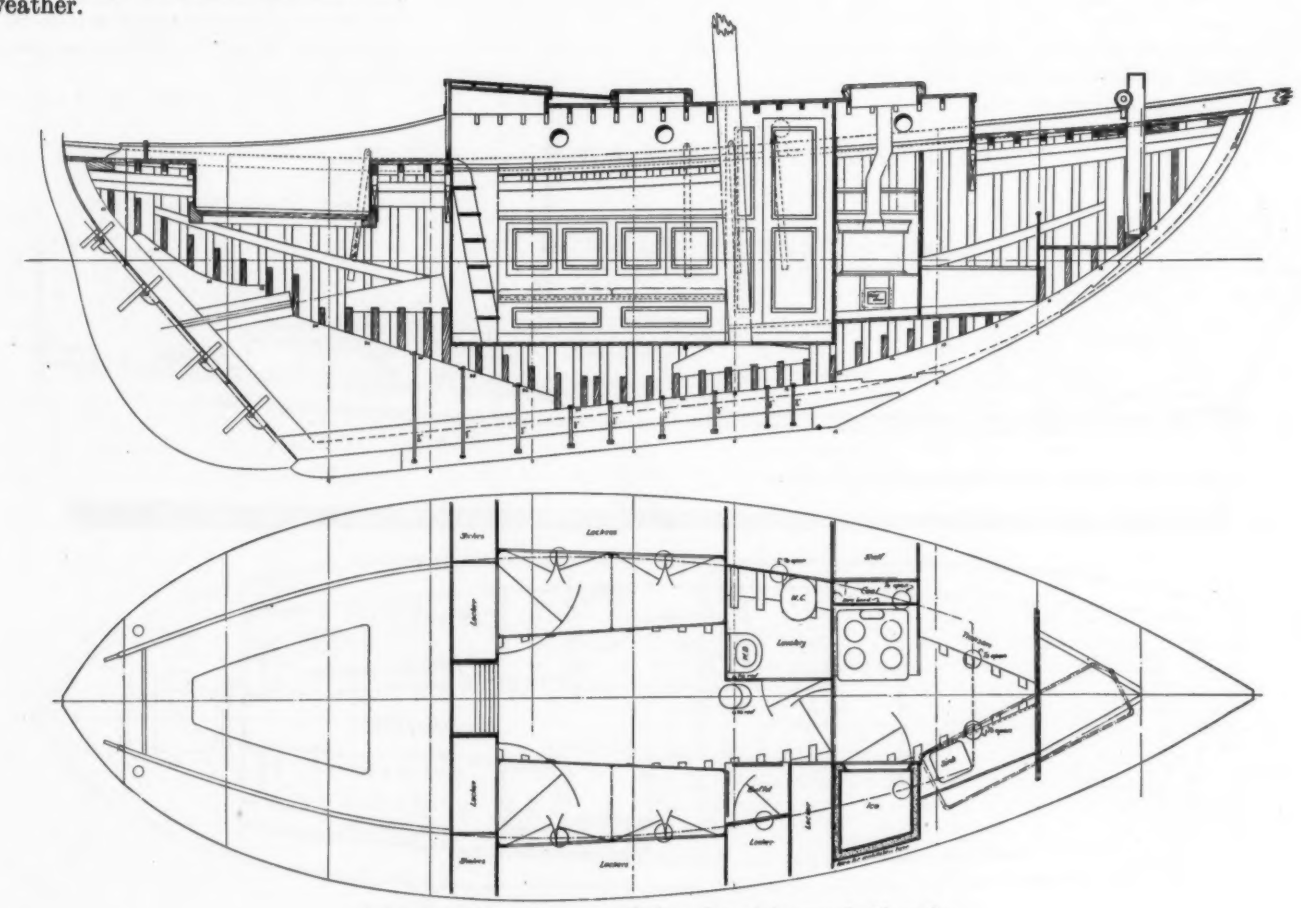
The yacht is cutter rigged and her total sail area is 813 square feet. Of this 150 feet are in the jib, 135 in the staysail and 528 in the mainsail.

Rail, planksheer, king plank, hatches and skylights are teak, the cabin house is mahogany, and the deck white pine. Fastenings are Everdur screws. The outside ballast is lead, about two tons in weight. The cabin floor is teak, with white pine caulking. The main cabin is paneled in natural pine, wax finished, while the toilet room and forecastle are finished in white enamel. This makes a bright and cheerful interior. The headroom in the main cabin is 6′ 6″ in the clear, and in the galley is 6′ 1″.

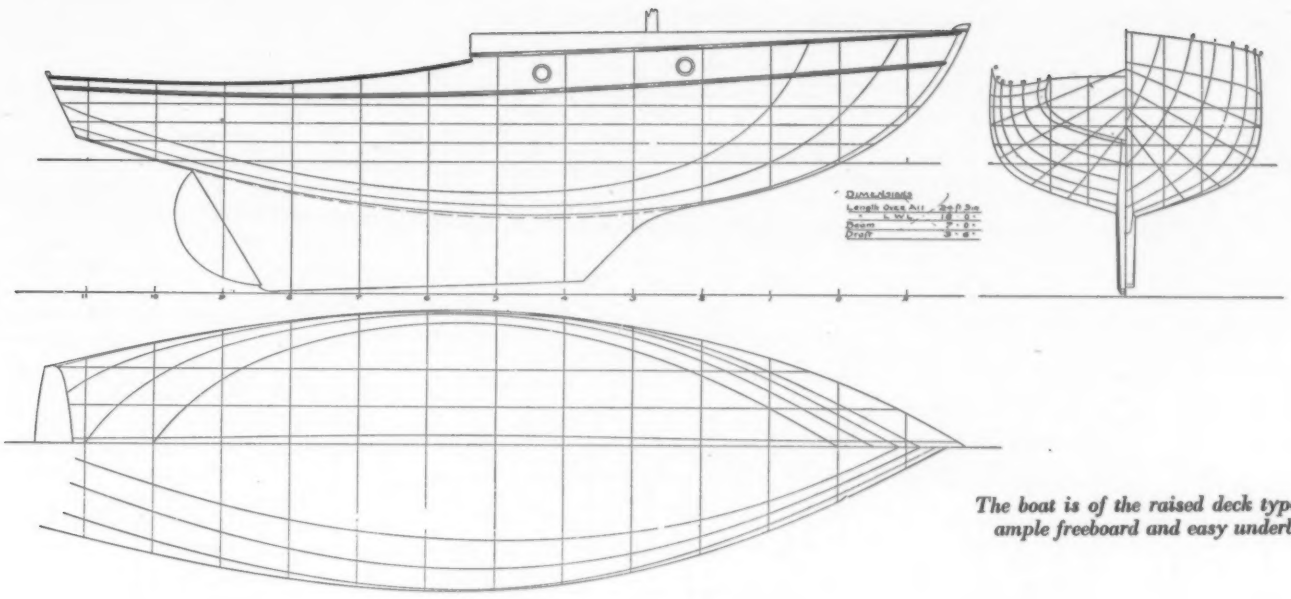
When the yacht was designed, the owner intended her to carry a 10 h.p. Fairbanks-Morse engine. While the power plant has not yet been installed, space has been left so that the motor may be fitted at any convenient time.

The new boat has been tried out under sail and has proved to be fast for her type and in spite of her generous beam. She has also shown herself to be able and easy to handle and a boat which performs well under all conditions of weather.

The sail plan shows an easily handled rig



Inboard profile and accommodation plan of the new double-ender

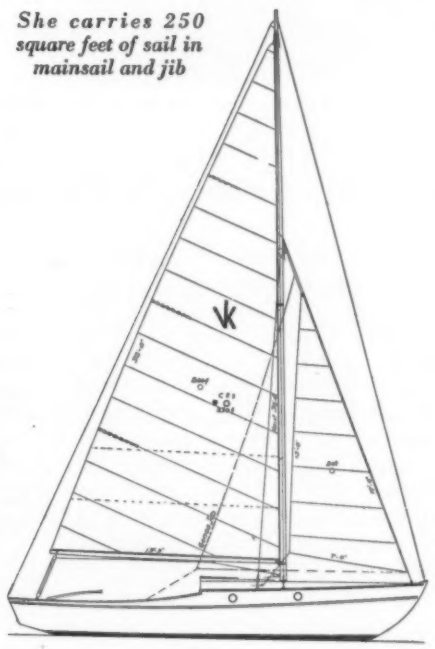


The boat is of the raised deck type with ample freeboard and easy underbody

A Proposed One-Design Class for Long Island Sound

THE underlying idea of a new class fostered by several yachtsmen of Manhasset Bay, Long Island, is to provide a thoroughly well built small boat not only for racing (there are already plenty of racing classes in existence) but for afternoon sailing and one that can be used for short cruises. The average small racing boat is usually deficient in all of the above requirements, except the first, and is seldom used except by her racing crew.

So the accompanying design of a 24-foot over all sloop, with a raised deck forward, something like the Victories, was worked out by Charles D. Mower, 205 East 42nd Street, New York. With close attention to ease of construction, the class should certainly "fill the bill," at a moderate first cost and low upkeep. A keel boat was desired, with 1500 lbs. fixed outside ballast, and the dimensions work out to 24′3″ l.o.a., 18′w.l., 7′ beam, 3′6″ draft. The sail plan shows 250 feet of canvas.

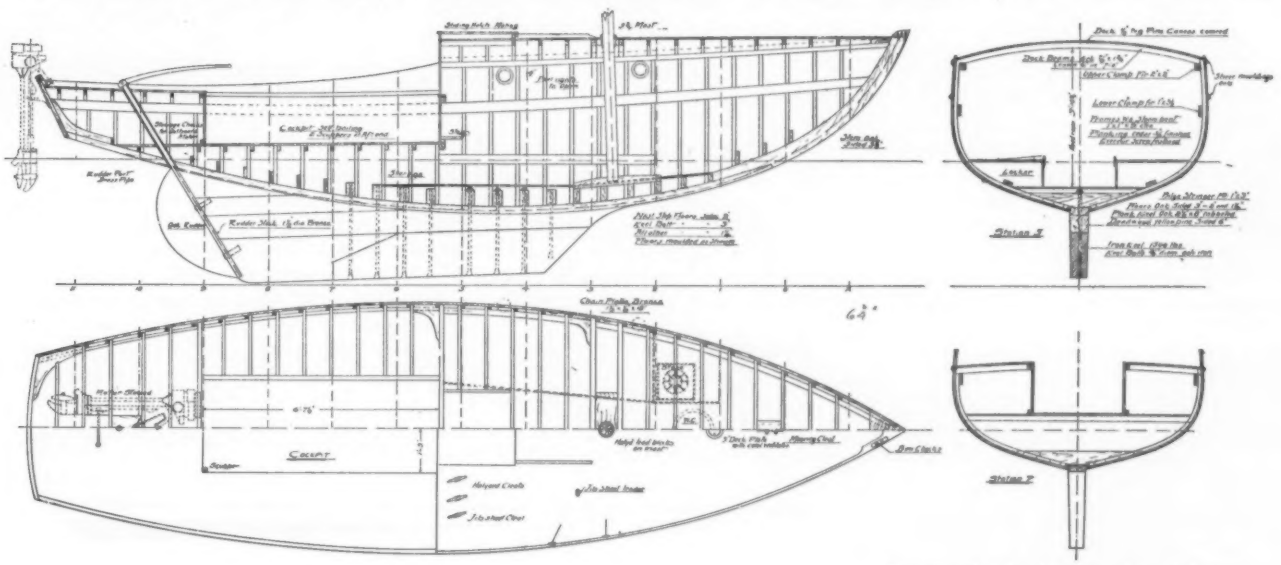


She carries 250 square feet of sail in mainsail and jib

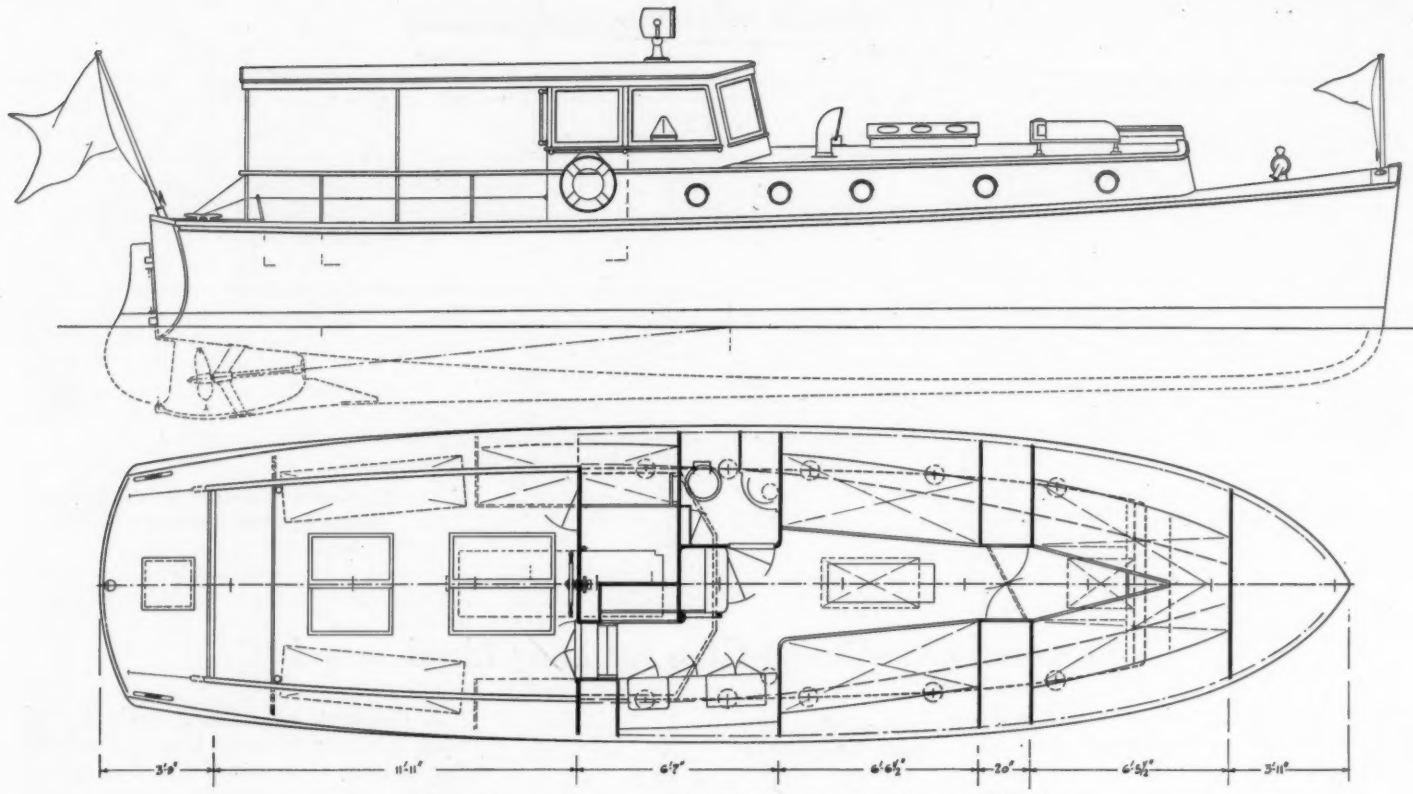
A 6½-foot self-bailing cockpit and wide side decks make for comfortable day sailing with room for five or six persons; while the cuddy or cabin, with two transom berths, gives ample sitting headroom, with space for a small galley forward, a refrigerator, simple toilet, shelves, etc.

Realizing the convenience of power in order to be sure of "getting there and back" in the event of calm weather, the "Vikings," as the class has been named, are designed to carry an outboard motor especially adapted for the class by the Outboard Motors Corporation, with a long shaft, which will give a speed of close to five knots in smooth water.

If built in fairly large groups, the price complete with sails, but without motor, will be in the neighborhood of $1250, or perhaps a trifle less. Mr. Vivian Burnett, 274 Madison Avenue, New York City, is one of the sponsors of the new class. Inquiries should be addressed ,to him.



Construction is simple and rugged



There are berths for four in the owner's party and one for a paid hand

A Fast Day Cruiser by Kromholz

THE ATTRACTIVE boat shown herewith was designed by L. L. Kromholz of New York. Her principal dimensions are as follows: length over all, 40′ 0″; extreme beam, 10′ 4″; draft, 3′ 0″. While without any radical features she seems to have been designed for the definite purpose of serving satisfactorily as a comfortable and fast day cruiser.

Construction has certain novelties. The keel and framing will be of white oak, fashioned in the conventional manner, while for the outside planking, which will be laid on the seam batten system, brazil nut wood is being considered. This lumber, perhaps little known in this country, while only slightly heavier than mahogany has considerably greater strength and possesses other desirable properties. It has a remarkably close grain. To save weight, the decks and cabin sides will be of canvas-covered plywood although trim and house will be of teak.

The cockpit is high so that it might be called a sunken deck and is on the same level as the deck shelter. The trunk cabin is kept inboard far enough to give wide decks each side. The arrangement shows two rooms below, each with two berths. When built, the forward room may possibly be eliminated and its two berths shifted into the after room, a forward cockpit being installed.

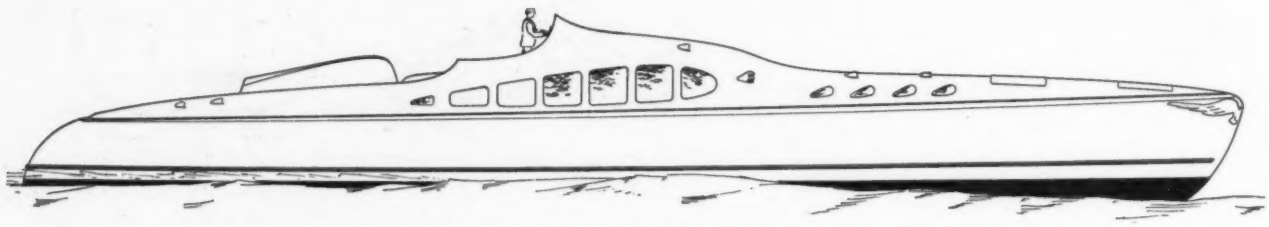
The power plant is a Model MP 180 hp. Speedway gasoline engine which will give a top speed of 22.5 m.p.h.

A 40-knot Commuter of Novel Type

LAST JULY John G. Alden got out this sketch for a high speed motor yacht designed with attention to air resistance and eddy making of both hull and deck erections. The hull is of the round bottom model, which not only performs well in rough water but is good at low speed as well. The corner between hull side and deck is rounded off to a radius of six inches and the after end of the boat is tapered off to reduce air resistance at top speed. The boat is 75′ long and 13′ 6″ beam.

The power plant consists of two Wright Typhoon engines, located well aft and driving twin screws through gears. Ground tackle is stowed under the forward flush hatch, and the next hatch covers a forward cockpit and seat. Amidships is a deckhouse with staterooms forward and galley and crew's quarters aft. At top speed, no one is going to stand around on deck so that a fore and aft passageway has been provided below.

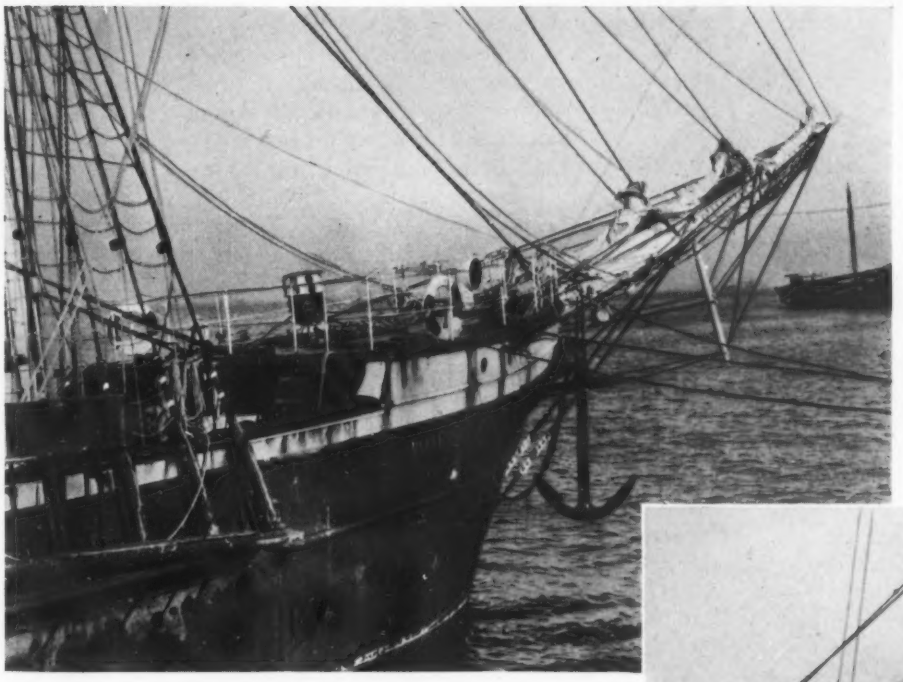
As the plan is as yet in the preliminary stage, much of the detail is still a bit vague. The design is, however, based on boats already built, so that there is a mass of data on which to work.



The above water portion of this commuter was designed to reduce air resistance to a minimum

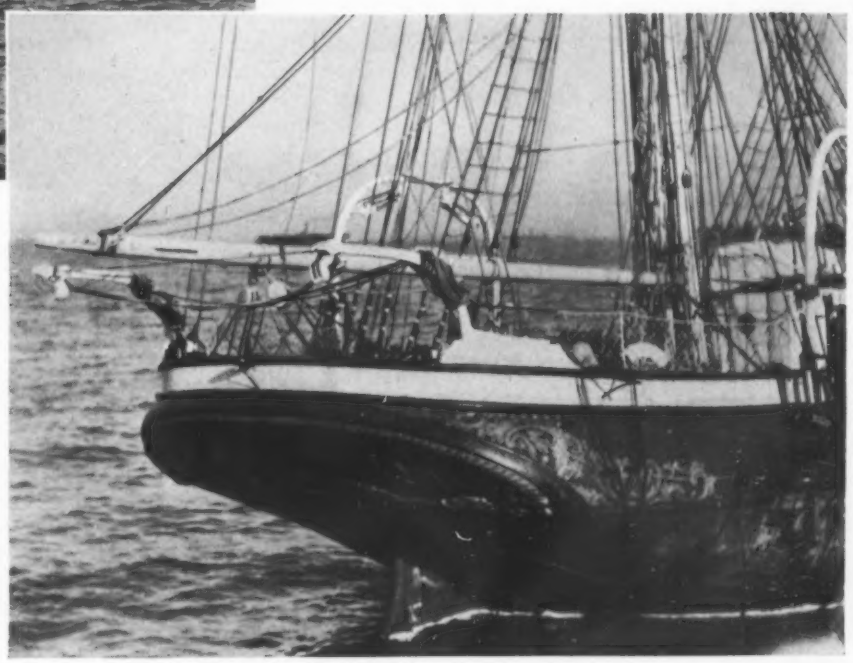
The "Joseph Conrad," first full-rigged ship to anchor in New York since the "Tusitala" went out of commission, arrived in port on December 29th, a few days ahead of schedule. She made her passage from England in a stormy season when SOS calls from steamships were frequent, but found little to bother an able windjammer. Under the ownership of the author-sailor Alan Villiers, the "Joseph Conrad" has thus completed the first passage of a two-year voyage around the world. Formerly named the "Georg Stage," and used by the Danish Government as a training ship, she has an iron hull 100 feet on the water line and crosses three royals over single topsails and topgallantsails — as lovely a sight as New Yorkers have seen in years

Photographs by Alfred F. Loomis



The "Joseph Conrad"

A Lovely Little Square-Rigger Arrives at New York



The ship's Transatlantic passage included a call at the Bahamas, and was successfully completed when her hook went down on the flats off Staten Island. But here her luck changed when a 60-mile gale blew up and in the night she dragged across the harbor and fetched up on the rocky shore off Bay Ridge, Brooklyn. Some small damage was done to her starboard bow below the water line, but she was refloated after two days and towed to Tebo's yacht basin, where she is now undergoing repairs. Villiers plans to continue his voyage down the coasts of the two Americas, entering the Pacific through the Strait of Magellan

Motor Boating Comment

The Prospects for Inboard Racing in 1935

By GEORGE W. SUTTON, JR.

IN LOOKING over the motor boating prospects for 1935, I am wondering what sort of a year it will be for inboard racing. It is not in the cards that the outboard motor, which has been the salvation of motor boat racing in this country since 1925, should be expected to provide 90 per cent of the racing indefinitely. It has done more than its share already.

Already the numbers of those actively engaged in outboard racing is beginning to diminish. A number of the outstanding drivers are going into inboard classes. A considerable number of drivers who have not developed any particular genius for the sport are dropping out and, while I think we shall have a wonderful outboard racing season, it is my impression that there will be somewhat of a revival of competition in new and old inboard classes.

Most promising among the new classes with inbuilt motors is that of the 225 cubic inch (international 4-litre) hydroplanes. Never has a new class caught on as rapidly as this. If rumors are to be believed, more than thirty of these boats are being built throughout the country to supplement the fleet of twelve or fifteen constructed last year. Since the recognition of this class as an international racing class by the International Motor Yachting Union in November, great interest has been manifested in it in England and France. Two American-built "225" hydroplanes are now on their way to England for experimentation and study. With races planned for these fast but inexpensive little boats at Paris, Poole (England), Cannes, Toronto, Detroit, Chicago and elsewhere, possibly with teams representing from four to six countries, the immediate future of the "225's" appears bright indeed.

There may be a modest revival of runabout racing in this country. The A.P.B.A. rules under which runabout racing has been conducted for the past two or three years have developed certain defects and the whole matter of runabout racing has been taken over by the A.P.B.A. Racing Commission. Certain abuses which have worked to the detriment of impressive runabout fleets at popular regattas will be eliminated and the whole set of rules ironed out in behalf of the average owner who would like the additional thrill of racing in his runabout but who feels he has no chance against professional drivers with specially pepped-up engines.

The Racing Commission has also taken over complete supervision of the 91, 135 and 151 cubic inch hydroplane classes. We can expect only a moderate amount of interest in the "91's." Although by raising the limitation from 125 to 135 cubic inches half a dozen additional engines were made available for the "135" class, I am in doubt as to what the future of these little boats will be. With the "225's" probably making records in excess of 60 miles an hour this year, it is doubtful if any large number of persons will be content with the lesser speeds of the "135's," especially since the money differential is a small one. The 151 cubic inch hydroplanes were, as you doubtless know, the greatest class of racing boats ever developed in this country. When it was strictly a poor man's class, great fleets of "151's" provided the keenest sort of competition. But when supercharged motors and the lavish use of money in hulls and engines appeared, the class went down hill rapidly and it is extremely doubtful if a substantial resurrection of these racers can reasonably be expected.

We shall all watch with interest the development of old and new Gold Cup boats under the new rules of the A.P.B.A. which allow superchargers on the old 625 cubic inch engines and the use of 732 (12-litre) engines unsupercharged. The manner in which Gold Cup owners will revive their hulls and engines this year for the Gold Cup and other restricted races and, later, for the possible unrestricted 12-litre races at Detroit, will largely determine the direction of design and equipment in America's proudest class of racing craft for 1936, when all hull restrictions will be removed and supercharged 12-litre engines will be allowed in order to raise our boats to a position of equality with foreign 12-litre craft. I understand that two new 12-litre boats are being built in France and that we may see them, with others, over here for the International Labor Day Regatta at Detroit.

If all present plans for that regatta materialize it will be the most glamorous race meet we have ever seen. It is possible that the first international race for the new W. D. Edenburn Memorial Trophy will bring teams of three 225 (4-litre) boats from England, France, Canada and the United States.

In addition to the possibility of an international race for unrestricted 12-litre boats, including all our Gold Cup boats, at Detroit, tentative plans have been made for a series of races of boats with 28-litre engines (approximately 950 horsepower) without superchargers. This would be a magnificent event *if* Count Rossi would bring over his new 960 hp. Fiat-powered hydroplane; if Commodore Wood would build a new 28-litre boat for someone else, possibly his brother George, to drive; if Marian Carstairs would bring out *Estelle V* or have a new 28-litre boat built by Gar Wood (as he is going to suggest to her in Florida); if Lord Forbes would come over with a Rolls-Royce powered craft in this class, for which he has been one of the most ardent advocates; and if Scott-Paine could be persuaded to take the supercharger off *Miss Britain III* and enter her in this event. If all these boats appear and if they all run properly, what a race that will be!

A great many of our best outboard and inboard racing drivers would like to spend the summer competing in foreign regattas, if the financial burden can be reduced by liberal reductions in transportation and hotel accommodations. Most of the European races carry large cash prizes, the acceptance of which does not interfere with the amateur status of European drivers. In order to meet this situation the A.P.B.A. ruled some years ago that acceptance of these prizes would not make a driver a professional in motor boat racing in this country. It would, however, bar him from amateur participation in other sports, such as golf, tennis, football and others. George H. Townsend, chairman of the A.P.B.A. International Contest Board, feels that this might be a serious matter for some of the schoolboys and collegians who might be tempted to accept the cash prizes for their motor boating victories abroad. This matter is now being discussed with the foreign motor boating authorities.

America will have only one entry in the two-hour race in Paris for the Spreckels Trophy offered by Madame Jean Dupuy. This will be R. Stanley Dollar, Jr., of Oakland, Calif. The contest is open to inboard or outboard boats weighing a maximum of 710 pounds. Mr. Dollar was the only American driver to get his entry fee paid before the closing date.

At the Motor Boat Show

The Dodge 20-foot Cabin Utility models have a speed range of 22 to 32 m.p.h.

The Dodge Display

THIS YEAR'S Dodge fleet includes no less than 26 stock models, with additional models available on special order. The innovations in the Dodge line are a cruiser and a sail boat.

Perhaps the chief interest of those exhibited at the Thirtieth Annual Boat Show is in the new Dodge "Seventeen," successor to the "Sixteen" which sold so widely last year. The new boat is presented in two models, one of which offers a choice of motive power. The boat is 17 feet long and 6 feet 1½ inches beam. Model 103 is the family runabout with a double cockpit forward seating six. A 4-cylinder 60 hp. engine, located under the after deck, drives her 32 m.p.h.

Model 102 is of the sport type with cockpits forward and aft and a 6-cylinder 80 hp. engine amidships. Her speed is 35 miles. A 115 hp. engine boosts this figure to 40 m.p.h.

Model 104 is a new 19½-foot runabout with double cockpit forward, seating six, and with the engine aft. A 6-cylinder 97 hp. engine drives her 36 m.p.h.

The new Dodge cruiser is just under 26 feet length over all, 8 feet 5 inches beam and 29 inches draft. She has sleeping accommodations for four, enclosed toilet room, fully equipped galley and clothes lockers. Prospective purchasers are offered a choice of power plants. A 4-cylinder 60 hp. engine gives her a speed of 14 m.p.h.; and a 6-cylinder 80 hp. motor drives her up to 18 m.p.h.

The Dodge sail boat, another new model, is 18 feet over all, 7 feet beam and 10 inches draft of hull. With the centerboard down, the draft is 4 feet. She is framed with oak and planked and decked with mahogany. The mast is a square box and the total sail area is 165 square feet.

New to the Show is the 16-foot Sport-Utility Boat which was in service late last season as a fishing boat. Between the after seat and the transom is a "kit well" with room for all sorts of fishing gear. The engine is a special job designed and built for Dodge and it drives her 25 m.p.h. It also throttles down to the lowest trolling speed.

The Dodge 1935 Utility Boats include two 16-foot runabouts, six 20-foot runabout models, and six 20-foot cabin boats. These offer a speed range from 22 to 32 m.p.h. Two 25-foot runabouts and two cabin boats are available on order in the Utility line. All of these may be had with the Dodge multiple V-bottom.

Standard runabout models include, in addition to those above mentioned, a 25½-foot runabout and a de luxe sedan, each driven at a 33-mile pace by a 165 hp. straight eight, a 28-foot runabout and a sedan. Power plants up to the V-12, 325 hp. engine may be installed.

The new Dodge 17-foot double cockpit runabout

+ + +

The Elco Fleet for 1935

DESIGNED to offer an unusual choice of arrangement, accommodations, finish and power, the Elco fleet for 1935 comprises eleven complete standardized cruisers, ranging in size from the 28-foot Veedette model to a luxurious twin screw motor yacht 60 feet in length. In the power plants, also, the prospective owner is given a choice of either twin screw or single installation, and in sizes above 32 feet he may have either Diesel or gasoline motors. At the Motor Boat Show seven of the Elco line are to be seen in Port Elco, adjoining the Grand Central Palace, which is thrown open to all showgoers, and which, in fact, is a part of the Thirtieth Annual Motor Boat Exhibit. The list of boats on the floor follows: A 28-foot Veedette; a 31-foot Veedette; a 32-foot Standard Cruisette; a 32-foot Custom Built Cruisette; a 38-foot Custom Cruiser; a 42-foot motor yacht and a 48-foot twin screw motor yacht. The models not exhibited at the Show are the 38-foot Standard Cruiser; the 38-foot Double Cabin Cruiser; the 50-foot twin screw motor yacht and a 60-foot twin screw

This Elco Veedette is a 28-footer with sleeping accommodations for six persons. Economical to operate and maintain, she will do 22 miles per hour with an Elco-Buda motor

Something a little larger, with a wide range of usefulness, is the Elco 32-foot Cruisette, with cockpits forward and aft, a deck cabin, and a speed of 22 miles

motor yacht. This fleet forms a most comprehensive line of high grade power cruisers.

Features characteristic of all Elco boats are seaworthiness, safety, low operating cost, and interior accommodations designed with a view to maximum comfort and convenience. Attention to mechanical detail is also a feature appreciated by Elco owners.

The deck cabin introduced by Elco some four years ago serves the dual purpose of a comfortable sleeping cabin at night (in addition to the accommodations provided in the forward cabin) and a comfortable lounging cockpit during the day, and provides berths for from two to four persons. At the forward end of these deck cabins is a comfortable, upholstered seat for the helmsman, built high enough to give an extended view in all directions. For the first time Elco boats show steel engine girders instead of the usual wooden members — a definite improvement in design, as these steel beds eliminate a fruitful cause of misalignment of propeller shafts. Another important contribution to the comfort of the boat owner is the use of soundproofing in the engine compartment, reducing greatly the noise of the motors.

The smaller boats of the Elco fleet are equipped with the well-known Elco-Buda type motors. The larger yachts are offered with Elco or Buda engines, or those of other manufacturers at the owner's option. Diesel engines, in single or twin screw, are also provided in the 32-footers and up, if desired.

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New England Marine Company

ONE of the outstanding exhibits of small sailing craft is that of the New England Marine Co., of Boston, which is showing its small, modern, jib-headed sloops called Winabouts. These half-decked craft are up to date in design and construction, smart looking, and snappy sailers, excellent for youngsters or oldsters for day sailing and racing, and may be converted to overnight cruisers by a clever adaptation of removable floorboards.

Two of the Winabouts are 16½-footers, one being lapstrake planked and the other smooth, with canvas-covered decks on one and two-tone varnished wood on the other. The specifications show high grade materials throughout. A 55-pound galvanized iron centerboard assures stability. Spars are fitted with tracks for the sails.

The third Winabout is an 18-footer, smooth-planked, and a de luxe job in every way. Similar in design to her smaller sisters, she is naturally a bit faster, dryer, and abler, with room for eight persons in the cockpit. A snappy sailer at all times, she is a particularly good performer in heavy weather with reefed sails. A unique feature is a portable cruising cabin, supplied at small extra cost, which may be set in place quickly and easily.

Winabouts are endorsed at such yachting centers as Marblehead, Manchester, Cape Cod and the Jersey Coast. The prices are distinctly on the moderate side.

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A Johnson Sea Skiff

THE 23-foot Sea Skiff exhibited by the Hubert S. Johnson Boat and Engine Works, of Bayhead, N. J., home of this type of boat, is a good looking, reasonably fast, able craft for fishing and all round use. This boat was developed during the past summer and has proved very popular. She has a beam of 8 feet and a draft of 24 inches. The layout includes a toilet room under the forward deck, an ice and a fish box, water tank, and a removable canvas top over the forward end of the cockpit for keeping the occupants dry when the spray flies. The usual power, a Chrysler Crown or a Gray 6-93, will give speeds up to 25 m.p.h. Other engines of more

or less power can be used to suit the owner's demand as to speed.

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The a.c.f. Display

TWO BOATS are featured by the American Car and Foundry Company, the 30-foot Day Cruiser and the new 34-foot cruiser. The former is an able craft, designed especially for service in open water. She is 30 feet 6 inches over all, 9 feet molded beam and 32 inches draft. She has a light, airy cabin with two comfortable berths, there being space for two additional berths if desired. The steering wheel is forward, with a helmsman's seat for two. The galley is forward on the starboard side. Aft is a large cockpit with room for several chairs so that a good sized party may be accommodated on short runs. The cockpit is entirely open, which will be appreciated by fishing enthusiasts. Power is supplied by a Chrysler Ace with reduction gear which drives the boat 17 miles per hour. This speed has been recorded a number of times in runs over the measured mile.

Construction is rugged, with oak frame and keel, fir planking and Philippine mahogany house and trim. Cabin windows are screened with Inconel metal, a non-corroding alloy. Gasoline tank capacity is 80 gallons and fresh water tanks hold 30 gallons.

The 34-footer is shown for the first time, though the boat has been thoroughly tried out in service before being offered to the yachting public. She is a cruiser with a forward cabin which has sleeping accommodations for four, on upper and lower berths, a well equipped galley and a compact toilet room. The cockpit is unusually long, the forward part of it being covered by a standing roof while the after part is open. The entire cockpit may be enclosed by khaki side curtains and a hood running to the after coaming. The cockpit may thus be converted into an extra cabin for use at moorings or in bad weather. The cabin trunk has three good sized windows each side and an air port forward.

The engine is a Chrysler Crown reduction gear machine which gives a speed of 16 m.p.h.

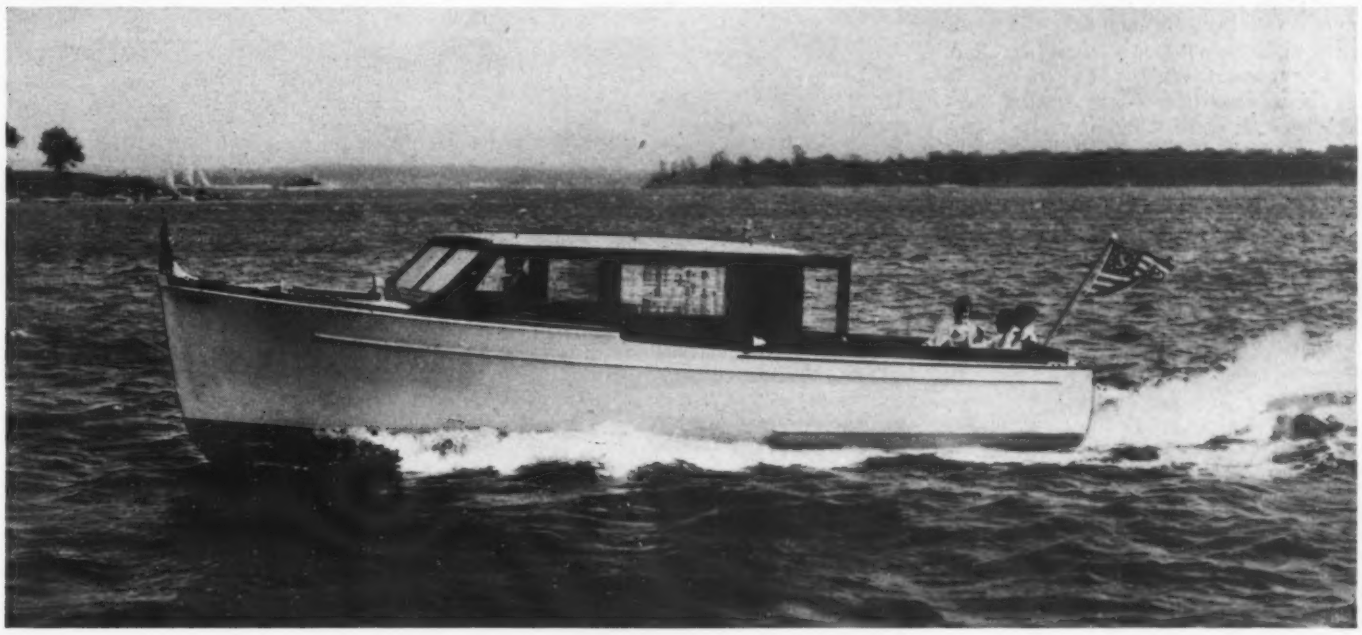
In addition to the two boats on display, the builders offer a number of other motor yachts. These are: 24- and 26-foot cruisers, a 38-foot express cruiser, 39- and 40-foot double cabin cruisers, a 46-foot twin screw double cabin cruiser, and 47-, 54- and 68-foot motor yachts. All are turned out at the a.c.f. plant in Wilmington, Del., an old time shipyard combined with one of the most modern and extensive woodworking plants on the Atlantic Coast.

Armstrong & Galbraith Show Many Attractive Small Craft

ANYONE interested in small craft should not fail to inspect the display of Armstrong & Galbraith, the well-known dealers of 79 Barclay Street, New York. For here are no less than ten craft, outboard and inboard runabouts bearing the hallmark of such sterling builders as Century, Lyman and Thompson. Some are brand new models, while some are carried over from former years, with improvements.

Outstanding in the Century line is the new all-mahogany inboard runabout, powered with a Gray motor — swift and trim in appearance, moderate in price yet ample in value. Another is Century's far-famed, consistent race-winner, the intriguing Class A outboard hydroplane. There are three more Century models, all mahogany runabouts designed for various purposes, such as speed, fishing, with seaworthy and dry qualities.

Leading the line of the Lyman Boat Works, of Sandusky, Ohio, is a new inboard runabout — a 15-footer with Gray motor. She is in the popular price class, selling for about the same price as the larger outboard outfits. She has generous beam and depth which, coupled with the traditional Lyman seaworthiness, leaves little to be desired. Another Lyman model is the 13-foot racing



The 30-foot Day Cruiser by a.c.f. is all that her name implies. The deckhouse is enclosed, with the maximum of light and air. A Chrysler Ace furnishes power

From the home of the Sea Skiff, this 23-footer by the Hubert Johnson Boat Works is an able boat for the fisherman or the man who wants sturdiness with 25-mile speed

model which holds the world's record for her class, besides being one of the driest boats of her size ever built.

The ever-popular Thompson 14-foot Family Runabout is also on display. This little craft is one of the country's most consistent sellers, having been at the Show for the past six years, no changes in design having been made except as to minor details.

For those who want something light and portable there is a 12-foot kayak in knockdown form — a mighty trim little outfit, at a sub-depression price.

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Consolidated's Exhibit

FOR THE thirtieth annual Motor Boat Show, Consolidated Shipbuilding Corporation displays its thirtieth consecutive exhibit, a new boat and three engines.

The boat is a brand new model known as the Twin Cabin Play Boat. She is 39 feet long, 11 feet beam and slightly over three feet draft. She is framed with oak and double planked with cedar while house and trim are of Philippine mahogany. Her main deck is of Oregon pine, canvas covered.

Below, there is a double stateroom forward, with built-in berths, bureau and wardrobe and a hatch overhead. Next aft is the well-equipped galley, to starboard, and a toilet room to port. Amidships is the main cabin, with cushioned transom each side, the backs swinging up to form upper berths so that four may be accommodated. The cockpit is roomy, being over 12 feet long, with a comfortable seat aft and a standing roof.

The power plant is a pair of Kermath engines developing 80 hp. each and driving the boat at a good pace. The copper fuel tank holds 160 gallons and the water tank 65 gallons.

In the mezzanine are exhibited three Speedway engines: Model MP, 190 hp.; Model MC, 250 hp., and Model R, 300 hp.

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Korodless Wire and Fittings

GONE are the days when wire rigging must be replaced every three or four years because of rust and corrosion. For ordinary galvanized steel wire is being rapidly replaced by Korodless Wire, manufactured by the Hazard Wire Rope Co., of Wilkes-Barre, Pennsylvania.

The Korodless exhibit at the Show is of distinct educational value in acquainting yachtsmen with the many remarkable qualities of this fine product. It neither rusts nor corrodes, has astonishing tensile strength, and has stood up for years under the hardest kind of service. The higher class yachts are rapidly replacing ordinary wire rigging with Korodless, and forgetting their wire rigging troubles.

In addition to Korodless wire rope, Hazard is showing numerous fittings made of the same material, and some specialties which will be of decided interest.

Sparkman & Stephens

THE EXHIBIT of the well known firm of Sparkman & Stephens, Inc., of New York, naval architects and yacht brokers, will include a number of photographs and descriptions of yachts for sale and charter and also photographs and plans of yachts already built or at present under construction from this company's designs.

In addition, there is displayed an interesting little ice boat. This craft is about 15 feet long and carries 75 square feet of sail. She was not developed particularly as a racing craft, but is designed for ordinary sailing with one or two people aboard. In view of the growing interest in ice boating, particularly in the East, she should repay a careful inspection. Several members of the Larchmont Yacht Club have already formed a class of these little boats.

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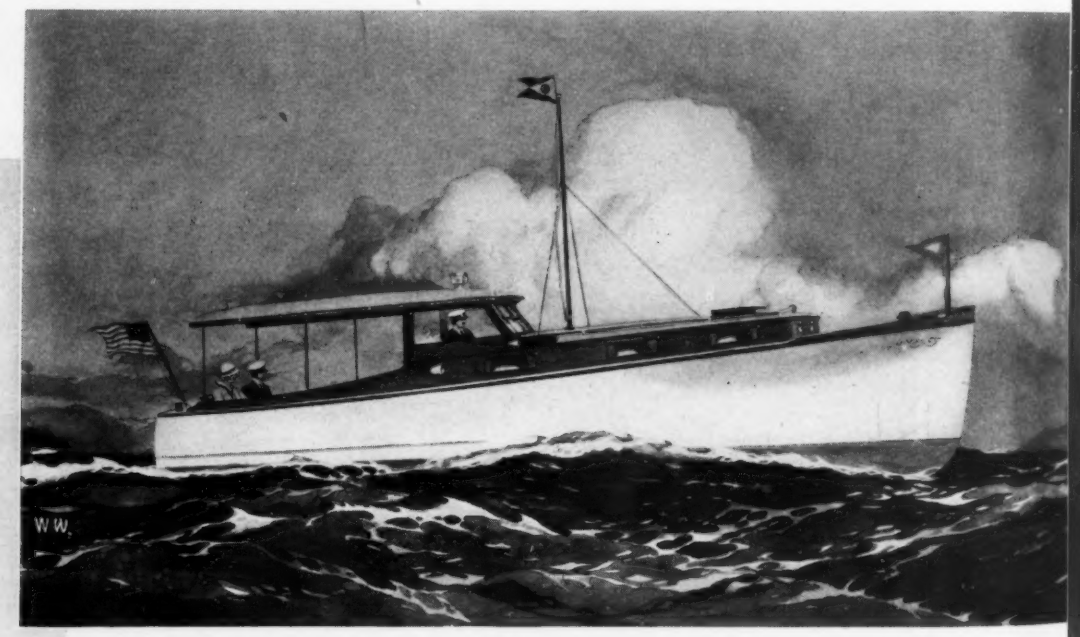
Nautical Instruments by Bliss

ESTABLISHED in March, 1835, the firm of John Bliss & Co., of 84 Pearl Street, New York City, is celebrating its one-hundredth anniversary as manufacturers and developers of instruments pertaining to navigation with a comprehensive display at Booth 82, third floor. Included in the exhibit will be a complete line of ships' clocks, chronometers, compasses, binnacles, peloruses, azimuth instruments, sounding machines, binoculars, nautical publications, etc. Whether you own a small day cruiser or an ocean-going Diesel yacht, if you want the latest and most reliable in the way of navigating equipment, drop in at the Bliss exhibit.

One of the specialties made by the firm is the Bliss American taffrail log, designed particularly for use on sailing vessels where the speed often drops down to a few miles an hour, and for all vessels of moderate speed where a larger log would not give such accurate results.



The new Twin Cabin Play Boat by the Consolidated Shipbuilding Corporation. She is a 39-footer with two 80 hp. Kermath motors

An ice boat has heretofore been a stranger at the Motor Boat Show, but this 15-footer with 75 square feet of sail is exhibited by Sparkman & Stephens

Matthews Cruisers and the Popular "Sailer"

IT HAS long been a policy of the Matthews Company, Port Clinton, Ohio, not to change its models radically from year to year, and the beneficial effect of this policy is apparent this year in the Matthews boats for 1935. The company is, however, bringing out one new model "38," a Sedan type cruiser, in one of the standard 38-foot hulls, which embodies a number of features that have become popular recently with boat owners. The main cabin of this boat is available in two arrangements — either twin berths or two lower and two upper berths. To starboard, abaft the main cabin, is a galley containing several new and convenient features, while opposite is a well-equipped toilet room, typical of the Matthews standard of appointment. Stepping up into the deckhouse, one is struck by the beautiful mahogany paneling which successfully hides two folding berths which may be opened up at night, forming another sleeping cabin. The roomy after cockpit is over 9 feet in length.

Another cruiser featured by Matthews is the 38-foot Twin Cabin model. The forward cabin, with two berths, is separated from the main cabin, which will sleep four persons, by the galley and toilet room. An 80 hp. Kermath gives this model a speed of 10–12 miles. The other Matthews power cruiser models are the 46-footer and the 50-footer, both of which have exceptional accommodations, and speeds to meet any demands, with the choice of several makes of engines.

The sensational success of the Matthews "Sailer" at last year's Show is again apparent this year, the able little 25½-footer attracting a crowd during every hour the Show is open. The generous beam of 8½ feet gives unusual room below and the moderate draft of 2 feet 8 inches permits her to be sailed in shallow waters. A 4-cylinder Gray 12–16 hp. motor, hidden under a hatch in the cockpit floor, gives good speed under power, while a sloop rig of slightly over 300 square feet makes her "step along" under sail. One of these boats won the 192-mile race last summer from Corpus Christi to Galveston, across the Gulf of Mexico.

Established in 1890 by Scott J. Matthews, who is still the head of the organization, this year marks the 45th anniversary of the founding of this company.

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Look Out for the Bulldog at Kyle's

SOME bulldogs are dangerous. But the one shown by the T. A. Kyle Company, of City Island, is not only harmless, but one of the safest, fastest and most attractive little sloops you will run across in many a day. She was designed by Megargel & Gruber particularly for juniors, but there is plenty of room for grown-ups to have plenty of fun, too.

The Kyle Bulldog is 14 feet long, 5 feet 3 inches beam and 2 feet 5 inches draft, and carries a modern jib-headed sloop rig of 110 square feet. She is "all boat," handles beautifully, and is a pleasure to sail. The specifications leave nothing to criticize, and include such items as oak keel and frames, cedar planking, mahogany transom, brass and bronze fastenings, and 450-pound lead keel the latter making them practically non-capsizable. All necessary equipment, such as sails, battens, anchor, anchor line, life preservers, etc., is included in the purchase price, which is decidedly low when the real quality and worthiness of the little ship is considered — she is a "City Island job" all through.

A class of Bulldogs was purchased last year by members of the American Yacht Club, of Rye, and after a season's usage, was voted a complete success. Don't fail to give the Bulldog a critical inspection if you want real quality at a low price in a handy, roomy, fast little sloop for juniors or grown-ups.

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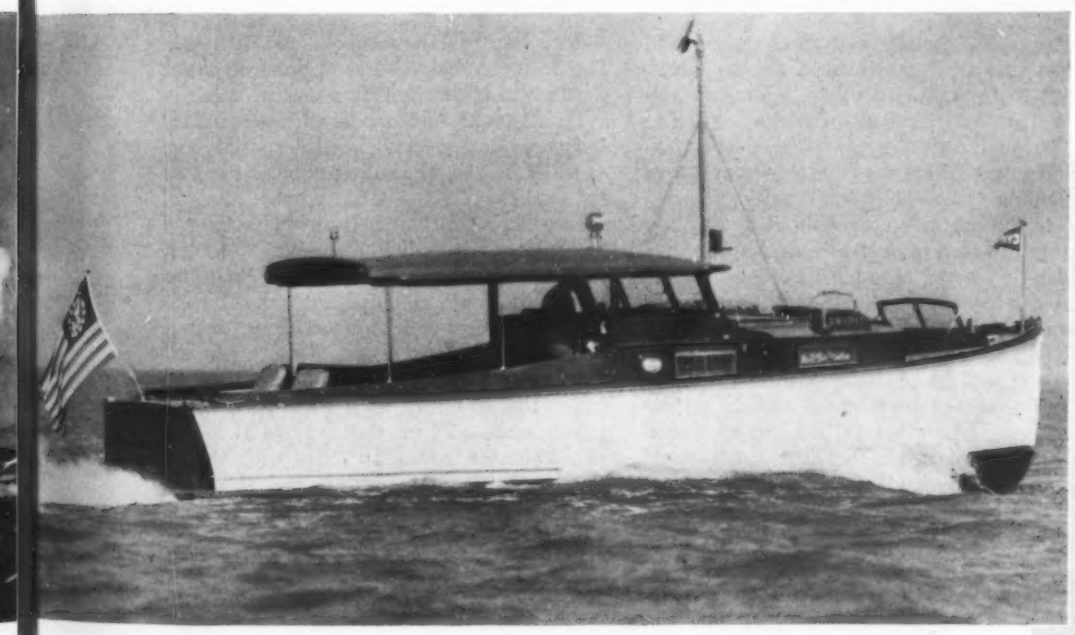
Midshipman II Motors

THIS horizontal engine, built by the Gifford-Wood Co., a 4-cylinder 4-cycle motor, is basically the same as last year's model with certain refinements. It is only 26⅛ inches long, 24¾ inches wide and 17¾ inches high from the center of the shaft, and weighs 265 pounds. The unit comes complete with electric starter, built-in Paragon reverse gear, generator, fuel and water pumps and Delco ignition. A 2:1 reduction gear may be installed, adding but 3⅝ inches to the over all length, and a 3:1 gear may be furnished with a slightly greater increase in dimensions.

It is made in two models, having single or double carburetion. Model L is rated 20 hp. at 2000 r.p.m. and Model H is rated 33 hp. at 3200. The balance, light weight, and low center of gravity of these engines makes them suitable for installation in small boats.



This Matthews "38" sport cruiser, with cockpit forward and canopy kept short aft, was designed for the angler. Her engine is an 80 hp. Kermath

The Matthews "Sailer" has lots of room for a boat of her size, and her light draft allows her to enter many interesting little harbors. She carries a 12–16 hp. Gray Sea Scout motor

The Chris-Craft Fleet

THE Chris-Craft fleet for 1935 comprises runabouts in six lengths, from 16 to 27 feet, three models of utility boats, a new utility cruiser with sleeping accommodations for two, and two fast cruisers.

The newest and smallest boat in the fleet is the 16-foot runabout with cockpits forward and aft. She is 5 feet 7½ inches beam and seats six adults. She is planked with Philippine mahogany, the bottom being double planked and the sides single planked, with seam battens. The engine, a 55 hp. machine, is mounted on rubber to minimize vibration. The speed with this motor is 32 m.p.h. Optional power is a 72 hp. engine which runs up the speed to 35 m.p.h.

Another 16-footer makes her initial bow at the Show. She has the double cockpit forward. The same power plants are offered in this model, with the same speed range.

The 18-foot runabout with double cockpit forward is on exhibition. This is the popular boat shown first last year, but with a number of refinements. With the 55 hp. engine, she travels at a 31-mile pace. The boat is also built with cockpits forward and aft in the conventional style.

Another new boat displayed is the 19-footer with double cockpit forward and direct drive motor. She has all the Chris-Craft features, such as double planked bottom, cam and lever steering gear, etc. The 72 hp. engine gives her a speed of 33 m.p.h. while with a 92 hp. machine she is capable of travelling at speeds up to 36 miles.

The 22-foot custom runabout is also new this year. She is offered with a 92 hp. engine, which drives her 32 m.p.h.; a 125 hp. engine and 35 miles speed, and a 150 hp. machine and a speed of 40 m.p.h.

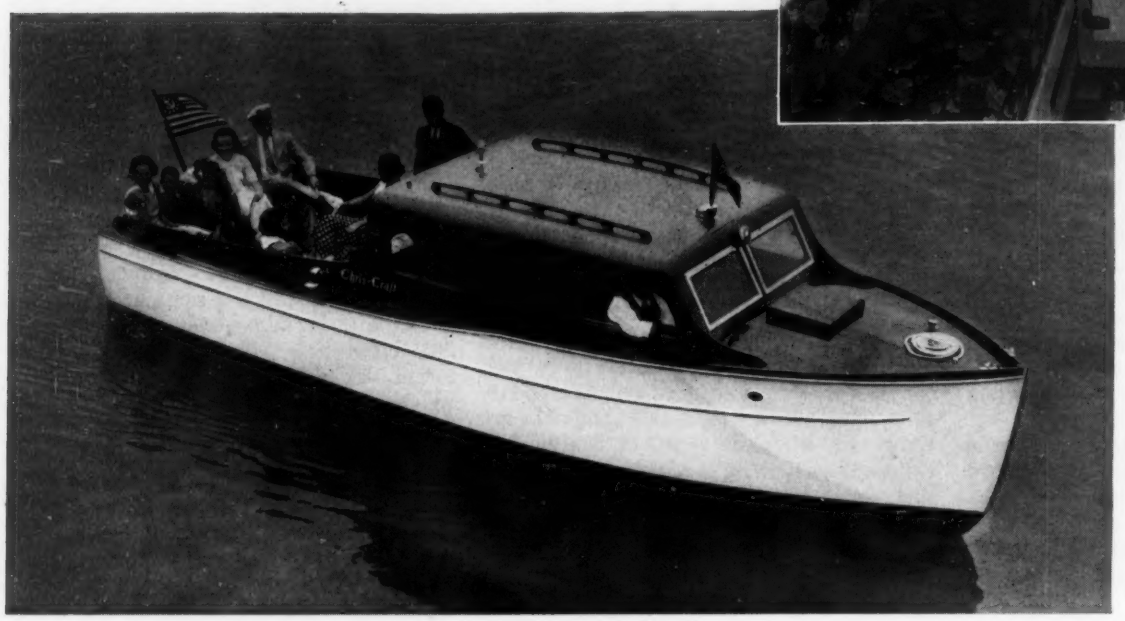
The flagship of the fleet is on hand in the shape of a 27-foot runabout, the well known model that has been raced and in service both here and abroad. With a 250 hp. Chris-Craft marine engine, the boat has a speed range up to 45 m.p.h.

The Utility models are shown in the 16- and 18-foot models. Powered with a 45 hp. motor, the 16-footer travels at 26 m.p.h. The 18-footer has several options in power plants, and is also built in a de luxe model.

The 21-foot Utility model offers a standard and three de luxe models with speeds from 26 to 32 m.p.h., depending upon the engine installed.

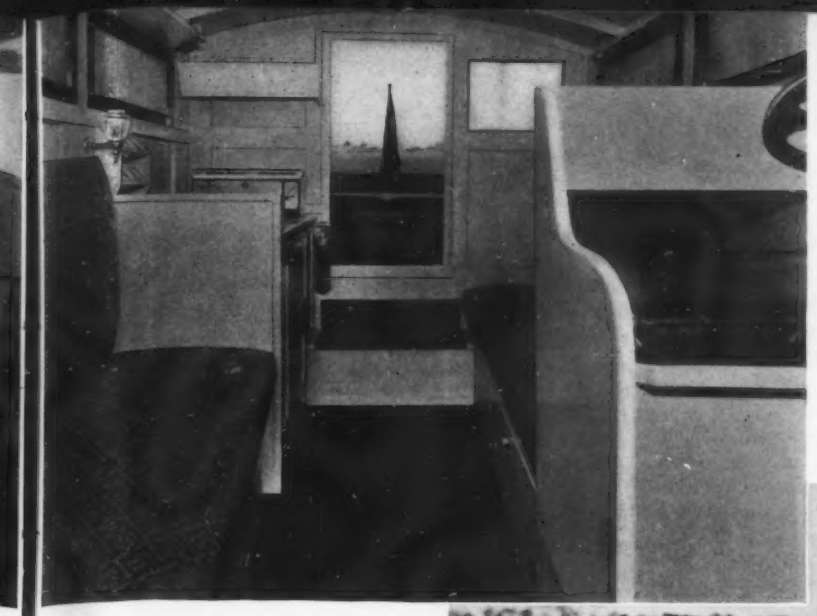
Two Chris-Craft cruisers are on the floor of the Palace, the 25-footer and the 30-footer. These are interesting craft, with their low houses with well rounded corners. The 25-footer has sleeping accommodations for four and the 30-footer for six. Both boats are luxuriously equipped. The 55 hp. engine drives the 25-footer at a top speed of 18 m.p.h., while a 70 hp. motor gives 21 m.p.h. The 30-footer makes 16 miles with the 55 hp. engine, 19 with a 70 hp., and 21 with a 92 hp. or with twin 55 hp. engines — enough speed for anyone.

Chris-Craft presents this sweet little 25-foot streamlined cruiser, capable of 18 m.p.h.



The cabin of this cruiser is fully equipped and most comfortable

Below are two of Chris-Craft's open models, the 27-foot Custom Runabout with generous seating capacity, and capable of 45 miles, and the little 16-foot Utility Boat



The cabin shows a well-planned arrangement, with complete galley, upper and lower berths on each side, and a helmsman's seat

Below is the Richardson Little Giant 25-foot cruiser. Gray-powered, she steps along at 18 miles per hour

Below is a new model, the Richardson Junior streamlined cruiser. Smart in appearance and in speed, she is a practical cruiser as well as strikingly different

The 1935 Richardson Boats

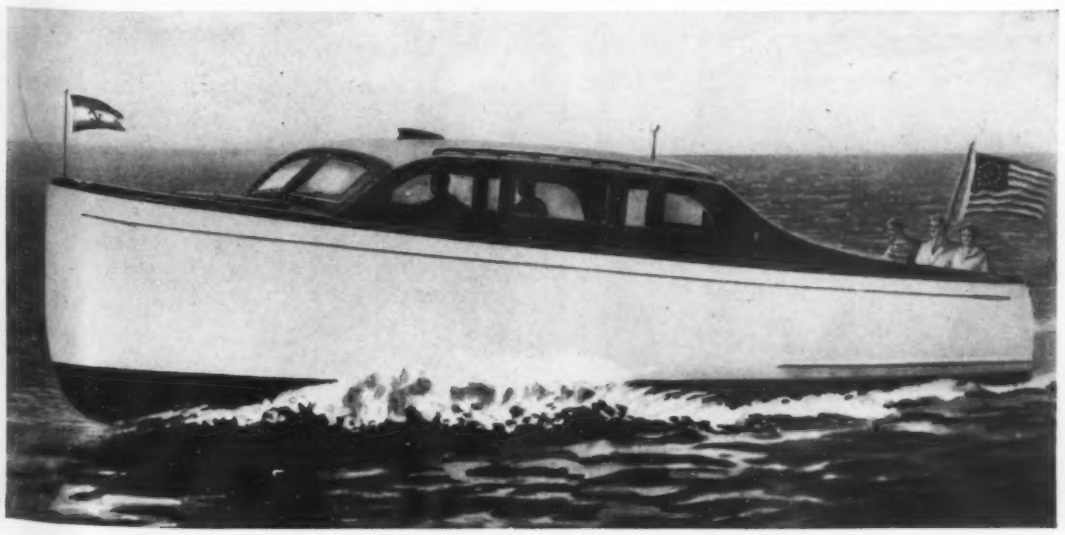
FOUR BOATS are being shown by Richardson Boat Company, Inc., representatives of the fleet of twenty-two standardized motor boats built by this company.

A newcomer to the Palace is the Richardson Scouter, on exhibition for the first time. She is 20 feet long and 6 feet 2 inches beam, a husky boat built in the traditional Richardson style and quality. She is a full bodied craft especially suited for fishing and shooting trips on open water, and also for a service boat for camp or summer home. A Gray 4-cylinder engine drives her from 14 to 16 miles, though she will do up to 25 m.p.h. with larger power.

The 1935 Little Giant is 25 feet long and 7 feet 6 inches beam and her standard power plant is a Gray 6-51 which gives her a speed of 18 m.p.h. Cable tier, water tank and toilet are under the forward deck. The cabin is fitted with upper and lower berths and has a wide seat for the helmsman forward, as well as large lockers. The galley is aft and the cockpit, which is entirely open, is exceptionally roomy. It has a seat aft and the engine is installed under the cockpit floor.

New this year is the Richardson Junior, a 28-footer with 8 feet 6 inches beam. Her dark mahogany cabin is low, with raking windshield forward and with the side coaming sweeping down aft in a graceful curve. The interior, laid out for use by four people, is modern. Helmsman's seat is on the starboard side forward, with a companion seat opposite. The cabin has four berths, with stowage under. Galley and toilet room are in the after end of the trunk. The cockpit has a wide seat aft and plenty of room for a large party. Under the forward end of the cockpit is the engine, a Gray 6-71, which drives the boat at a 16-mile pace. There are three other arrangements of the Junior, offered in more conventional design of superstructure.

Largest of the fleet is the new Cruisabout. She is 32 feet long, 9 feet 6 inches beam and 30 inches draft. The one shown is the single cabin enclosed bridge model, which is one of eleven arrangements of quarters in the Cruisabout size. She has a trunk cabin forward and an enclosed house amidships, the roof running aft over the cockpit. The cabin is laid out with four berths, lockers, etc., galley and toilet room. The deckhouse, completely enclosed, has a seat in each after corner. These seats may be extended into berths at night.



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Gar Wood Boats

EIGHT fast motor boats, four of them never before publicly shown, make up the exhibit of Gar Wood, Inc. The new craft are the 16-foot Speedster, the 22-35 runabout, the 20-foot Utility boat and the 26-foot cruiser.

The cruiser is 26 feet long over all, 8 feet 5 inches beam and 23 inches draft. She is built for both fresh and salt water service and is powered with a 73 hp. Chrysler Ace engine fitted with reduction gear and rubber mounted. With this power her speed is 25 m.p.h. The cabin, which is streamlined, has 6 feet 2 inches headroom and sleeping accommodations for four in comfortable berths. Galley and toilet room are provided, as well as ample stowage space. The helmsman's seat is forward with all controls at hand and an unobstructed view. Planksheer, forward deck and the upper part of the house are of African mahogany. Seat upholstery is of leather and all hardware is chromium plated.

The 16-foot Speedster is designed for two passengers, with a snug cockpit aft. Hull and deck planking are of African ma-

hogany. Hardware and metal trim are chromium plated. The engine, a 92 hp. Chrysler Crown, is forward of the cockpit. The boat is 5 feet 4 inches beam and 16 inches draft and her speed is 40 m.p.h.

Also new is the 22–35 runabout. She is 22 feet long, 6 feet 8 inches beam and 19½ inches draft. She has a double cockpit forward and a single cockpit aft with a total capacity of eight. The engine, a 125 hp. Chrysler Imperial, is installed amidships under hatches. The speed is 36 m.p.h.

The 16-foot Utility Boat, another new model, is a typical Gar Wood design, following the general lines of the others in the fleet. She is a roomy craft, with open cockpit seating nine adults. Her beam is 6 feet 5 inches and her draft 19½ inches. The standard power plant is a 6-cylinder 73 hp. Chrysler Ace, which gives a range of speed from 2 m.p.h., for trolling, up to a 30-mile pace when the owner is in a hurry to go places.

The other Gar Wood boats on display are standard models and include the 16–35 and the 18–30 runabouts, the 18–35 Special and the 28–40 runabout. Chrysler engines are installed in all of these except the last named which is powered with the 210 hp. Scripps Model 202 which gives a speed of 40 miles per hour.

Pouliot, Inc., Detroit Yacht Builder

RUSSELL J. POULIOT, INC., Naval Architects, Yacht Builders and Brokers, of Detroit, Michigan, are making their first appearance at the Show, and have on display plans, photographs, etc., of boats designed and built by them during the past two years. The company has not only turned out some excellent custom jobs, but has specialized in small standardized boats of both racing and cruising types, including the Teal Class of small knockabout sloops. This company is the builder and designer of the 46-foot sloop *Baccarat* which won in Class B in last year's race to Bermuda.

The Pouliot Company is establishing dealers to handle its product.

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Stearns Marine Company

VISITORS to the last two Shows marveled at the remarkable values reflected in the Wonderbouts, the snappy 16-foot sloops shown by the Stearns Marine Co., of Boston, and wondered how it was done, and if it could be done again. Well, it has.

The standard model Wonderbout has a beam of 68 inches and draft of 6 feet, with adjustable 50-pound galvanized iron centerboard. She is fast, able and dry, with a cockpit which seats six people easily. Keel and frames are oak, planking pine, lapstrake. Salt water fastenings and fittings throughout. A small outboard motor affixed to the re-enforced transom gives a speed of 7 miles.

The Wonderbout De Luxe is the same in design as her sister, but is de luxe in materials, construction and finish. Planking is smooth, of cedar, copper fastened. Decks are canvas-covered, and sails are of racing duck.

Either of these Wonderbouts is a mighty fine little sailing craft, suitable for day sailing or racing, overnight cruising, and would make a fine one-design class at a very low price.

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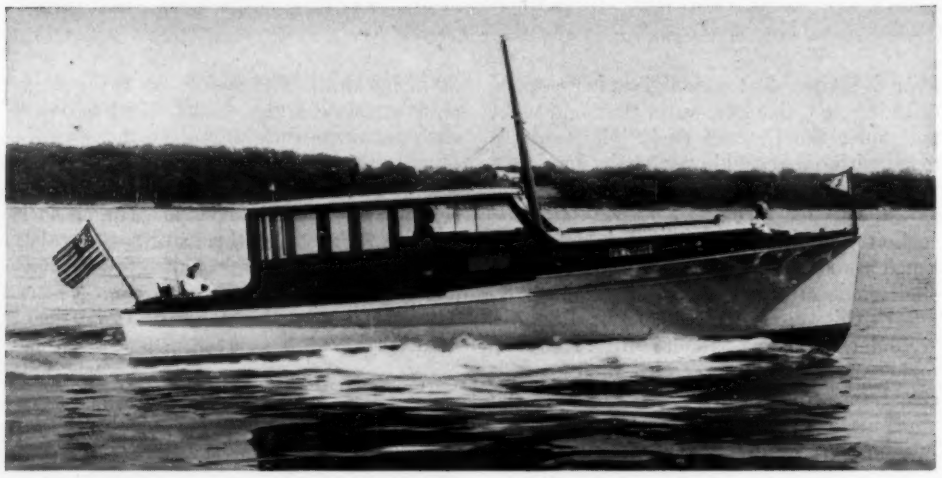
Fairfield Boats

FOUR boats are on exhibition in the booth of the Fairfield Boat Works, Greenwich, Conn. The largest is a 20-footer of 7 feet 6 inches beam drawing 4 feet 3 inches with centerboard down, designed by Nicholas S. Potter. She is a cabin boat of the motor-sailer type, with two berths, enclosed toilet room, and galley. Planking is cedar, deck, white pine and house mahogany. For power she has a Seaway single-cylinder 4 hp. engine.

Another boat is the new one-design Class B Frostbite dinghy, also from the board of N. S. Potter. Keel and frames are of oak, stem, knees and breasthook of hackmatack, transom, sheerstrake, thwarts, centerboard and trim of mahogany. Loose footed sail of any available color desired is by either Burrows or Ratsey. Hardware is polished



Below is the popular sized 26-foot streamlined cruiser by Gar Wood, Inc., for the man who likes to get there in a hurry. Her speed is 25 miles with a Chrysler Ace

At left we have the 36-foot a.c.f. cruiser, an able, comfortable and handsome boat. Below, the 18-foot sail boat, latest addition to the Dodge fleet

brass and standing rigging of stainless steel.

Also shown is a 14-foot fishing launch with a 4 hp. Seaway engine. A 9-foot punt completes the exhibit.

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Cape Cod One-Designs

LEADER of the exhibit of standardized sail boats by the Cape Cod Shipbuilding Corp. is the well known Baby Knockabout, a boat that has been popular for a number of years. She is a trim, round bottom craft and some 800 of her sisters are in use all over the country.

A new model is the so called "Mystery Boat," a 16-foot V-bottom craft rigged as a marconi sloop. She is finished with a mahogany deck and trim, has ample beam, and can really carry sail. She is designed for yacht club and family use.

The Nimblet, a 15-footer, is one of the smartest of the fleet. She is a round bottom boat popular for use at summer camps. Another boat being shown is the Kitten, a 13½-foot cat with gaff rig.

A new boat is the Diamond 12, a little marconi sloop intended for sheltered waters. Another little fellow is the Ace of Hearts, a 10-foot sloop with centerboard and tilting rudder.

Plans of a new 23-foot sloop are on hand. This is a boat for overnight trips or short cruises. A Gray Sea Scout engine may be installed in her at any time.

Luders Shows Motor Sailer and a One-Design

ONE of the Fisher's Island One-Design sloops is being shown by Luders Marine Construction Co. She is 25 feet 8 inches over all, 16 feet l.w.l., 5 feet 8 inches beam and 3 feet 10 inches draft, is planked with cedar and has mahogany transom and keel. Her sail area is 200 square feet. The rig is distinctly modern, short on the base line and lofty, with permanent backstay. The mast is hollow and the boom of T-section. The deep cockpit is roomy for a boat of her size and has seats on either side. About a dozen of these boats were built last year and they have proven fast and have provided keen racing.

Also in the Luders booth is a scale model of Commodore C. D. Mallory's new 67-foot motor ketch *Bonnie Dundee*, now under construction at the Luders yard in Stamford.

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Stereoprism Binoculars

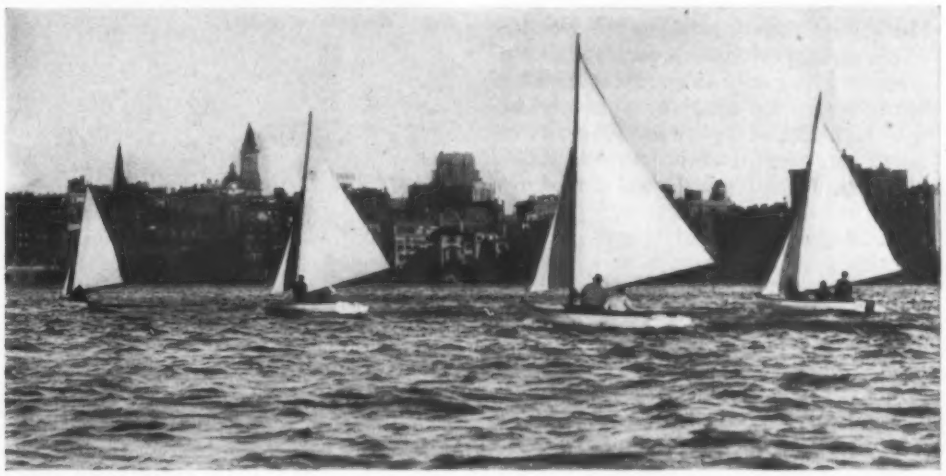
A LINE of stereoprism binoculars, based on the requirements of the U. S. Navy, features the exhibit of the Bausch & Lomb Optical Company. The Navy and the Coast Guard require a rugged, watertight glass, light in weight, which will give brilliant illumination in dirty weather. The Bausch & Lomb experts have developed a design which locates the center of gravity in the area of contact with the hands, redistributing the weight and relieving the wrists of strain.

The mounting of the prisms is a departure from the usual practice as they are secured to a separate plate instead of being fastened into recesses integral with the body, thus allowing accurate adjustment before they are placed in the body of the instrument. The prisms are accessible from all sides for adjustment. Locating pins prevent shifting but allow the prism assembly to be removed for cleaning without interfering with optical adjustment.

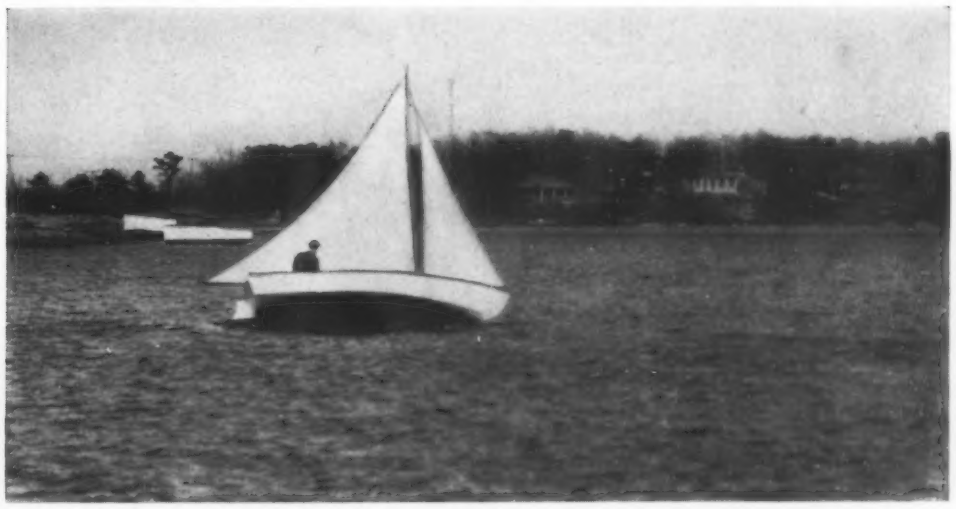
The image brightness given by these nautical binoculars is excellent and light losses due to absorption are reduced to a minimum. Glasses for navigation are the 10 by 50, the 7 by 50 and the 7 by 35.

A cross section of the new glasses is shown, as are types of binoculars chosen by noted explorers, navigators, hunters, riflemen and sportsmen. A new 8 power 56 mm. glass made for the Army is also on display.

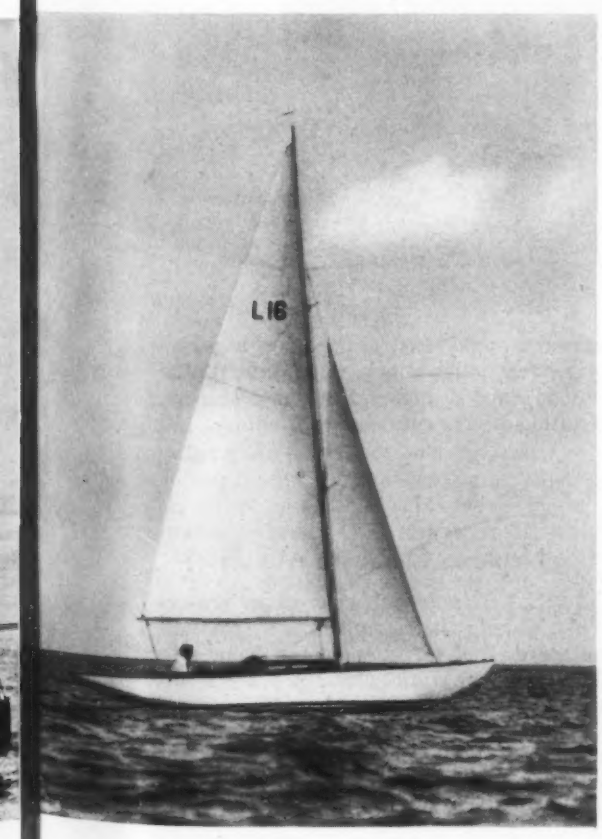
Five different kinds of optical glass go into these binoculars, and there are 118 different parts. Prisms and lenses are accurate to within six one-millionths of an inch.



A fleet of standardized sail boats called the "Winabouts," from 16½ to 18 feet in length. They are by the New England Marine Co. Below, a 16-foot Cape Cod V-bottom sloop



The Luders Marine Construction Co. exhibits (below) one of the 16-foot water line Fisher's Island One-Design sloops, so popular last year



Sterling Angle Drives and a Diesel

STERLING gasoline engines, eight of which are exhibited on the mezzanine floor, are all characterized by the employment of the counterweighted crankshaft which has been a feature of Sterling engines for 19 years, and which assures smooth operation of the engine. The object of employing counterweights is to relieve the bearing loads, and to enable a crankshaft to spin truly and exactly central in the bearings. Marine engines of the higher speed type may be classified as high duty engines. High speed engines — with a high horsepower output, capable of continuous marine duty — have been the basis of much development work that has led to the employment of these engines for other kinds of service requiring similar performance, such as rail cars, fire boats, and powerful pumping and generating sets. Sterling marine engines receive the benefit of this variety of service.

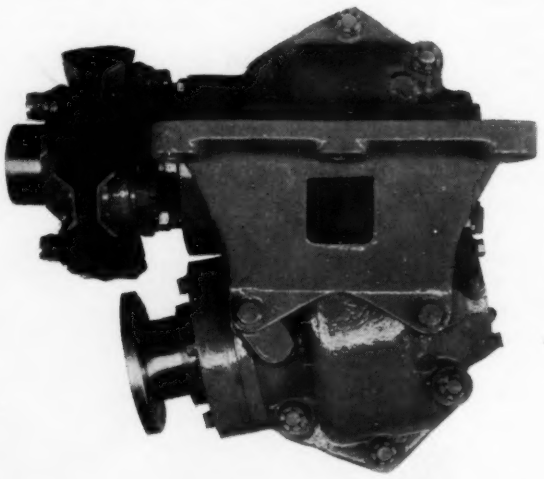
One of the outstanding developments in Sterling engines has been the employment of moderately light weight valves. The valve in the Sterling Petrel engine weighs 12 ounces; this engine is turned up to 2150 r.p.m. The dual valves, *i.e.*, two inlet and two exhaust valves, as used in the Dolphin 6- and 8-cylinder engines, weigh only 8 ounces each. The Dolphin 6-cylinder engine is rated at 2000 r.p.m.; the 8-cylinder engine at 1500 r.p.m. The large Viking series of engines, which develop in 6 cylinders 425 hp., and in 8 cylinders 565 hp. at 1200 revolutions, employ the dual valves, weighing only 19 ounces each. All of the engines employ a high pressure lubricating system, with oil coolers and filters, multiple ignition system, dual carburetors, Sterling reverse gears, and rolled steel forged flywheels.

The Sterling angle drive gear, recently featured by this company, is on exhibition. This unit consists of two helical cut gears, mounted on rigid alloy steel shafts running in ball bearings. The gear case is substantial, to assure permanent alignment. The developments in gear design and gear cutting machinery today assure a perfect contact of gear teeth, and a quiet running gear. All sound of operation is eliminated by cooling the oil in a separate cooler, and injecting the cooled oil directly in the gear tooth contact. The employment of this angle drive gear enables the placement of the engines in the stern of the boat. By switching the engines to the stern, and the fuel and water tanks to a position below the bridge deck, all sound of engine operation is relegated to the stern. A water-tight bulkhead, soundproofed, forward of the engines, completely isolates the machinery.

The Sterling gear is built with a reduction ratio of 1¼ engine speed to 1 propeller speed, meaning that with the 225 hp. Sterling engine, operating at maximum speed of 2150 r.p.m., the propeller turns about 1720 r.p.m. Boat builders report an increase of speed due to the use of the larger propeller, exceeding by three miles an hour the speed obtainable with the same engine in direct drive.

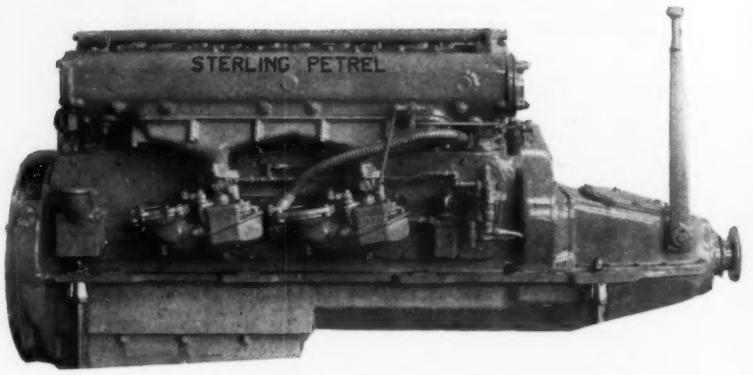
The Sterling crankless Diesel engine is exhibited with motor drive, illustrating the working principles of the engine. These engines are being built in various sizes up to 500 hp. at 1200 r.p.m. They occupy less space than the crankshaft type of Diesel, and due to the design characteristics are rated for continuous duty at higher speeds. The intermediate sizes may be employed at 1900 r.p.m. continuous 24-hour service, the smaller sizes at 1200 r.p.m.

These are opposed piston engines, the pistons working in horizontal cylinders. The outboard ends of the pistons are closed off and fastened to a yoke arrangement in which are mounted two ball-and-socket type thrust bearings. Two flywheels are mounted on the engine, one at each end. These flywheels are not at right angles with the shaft, but are mounted at a slight angle, and are referred to as "inclined discs." The combustion pressure is applied through the ball-and-socket thrust bearings against the face of the inclined disc. The pressure against the angle of the disc causes the disc to move. This pressure is held by the mounting of the thrust bearings, so that it is exerted against the flywheel, and not dissipated. To understand the principle of the application of this force one might consider the use of a ratchet type screw driver, which, when straight pressure is applied causes the screw to turn, resulting in very smooth operation.

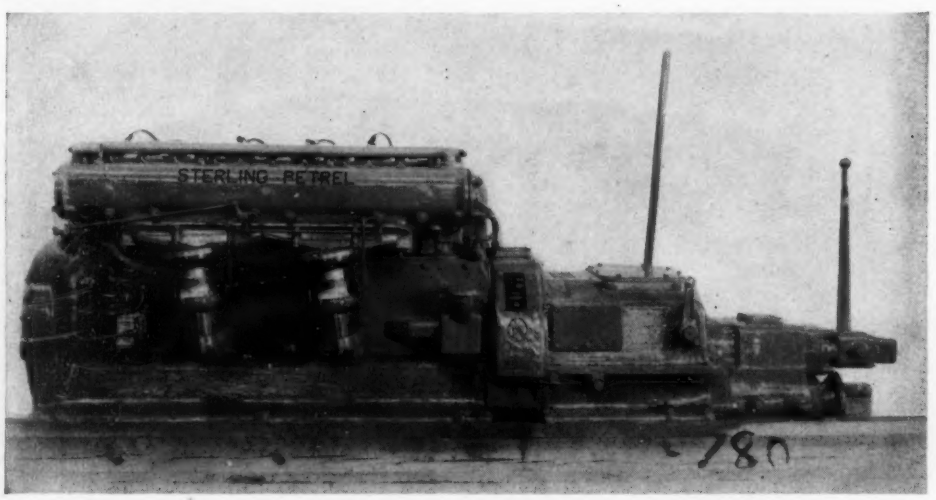


The Sterling Angle Gear Drive for the Petrel marine engine, which allows the motor to be placed in the stern

Below. The 6-cylinder Sterling Petrel, 5½ inches by 6 inches bore and stroke



Below, a reduction gear Petrel. The smaller lever manipulates a free-wheeling clutch so that in an auxiliary the engine and propeller shaft may be disconnected



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Neptune Outboard Motors

BARRING a few changes which are not visible in the assembled unit, Neptune outboard motors, manufactured by the Muncie Gear Works, Inc., are about the same as last year's models, which proved very satisfactory in service. All models are now made with Monel metal shafts. The motors are the Single, the Junior Twin, the Improved Twin and the Master Twin.

And Now a Kermath Diesel

TO ITS extensive line of gasoline marine engines, Kermath has now added full Diesel types. While the formal announcement is recent, this step is in no sense a surprise, as the manufacturers were known to be ready to bring out a Kermath Diesel as soon as economic conditions and a marine trade revival warranted. Remarkable business gains through 1934 set the stage for the first public showing of the Kermath Diesel at the 1935 Motor Boat Show.

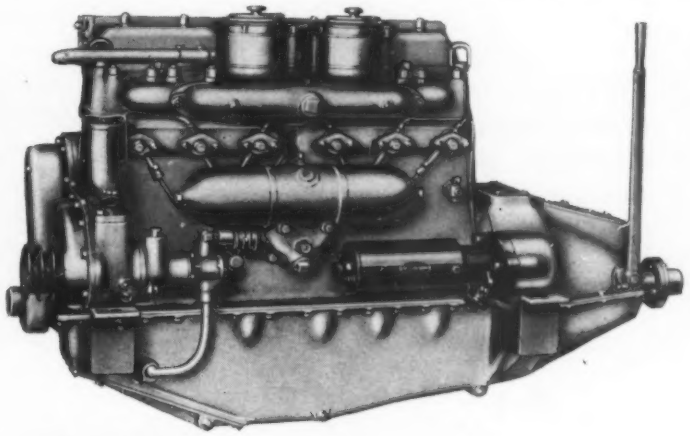
The sponsors of this new engine have satisfied themselves that the goal they set out to reach has been achieved—that is, a full Diesel type comparable to the Kermath gasoline models in compactness, low weight factor, simplicity, dependability, smoothness and quietness of operation.

In principle and construction this Diesel follows very closely a highly developed gasoline motor, with two exceptions. In place of the carburetor ordinarily employed to premix gasoline with air, the solid fuel is injected under pressure by means of the well-known Bosch fuel injection pump. Whereas the fuel of the conventional gasoline motor is ignited by means of an electric spark, in the Diesel the fuel is ignited by coming in contact with air that has been raised to a high temperature by compression in the cylinder. It is in the development of this feature that the Kermath 6-474 has made its greatest advance.

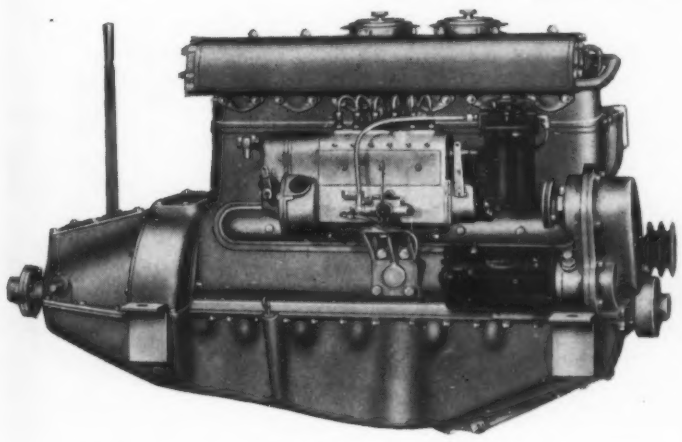
The more efficiently the air in the cylinder is utilized, the greater the amount of fuel which can be burned, and the more fuel burned the greater the amount of heat energy in the cylinder. It has been learned that the nearer the top center of the piston that combustion is completed, the greater the mean effective pressure. The Kermath Diesel 6-474 owes much of its success to its patented combustion chamber. One of these is located at the side of each cylinder. It is spherical in shape and has a port opening into side of cylinder. As a piston reaches the end of its top center travel it starts closing the port, thereby forcing the air through the aperture with extremely high velocity, actually accelerating the turbulence action at the critical time of injection and combustion, thus insuring great efficiency.

The new motor weighs just under 2000 pounds, and is only 59⅜″ long over all. The depth below center is 10⅞″, the height above is but 27¼″, while the extreme width is 26¼″. The six cylinders have a bore and stroke of 4⅜″ by 5¼″, a displacement of 474 cubic inches. The power curve ranges from 50 hp. at 800 r.p.m. to 120 hp. at 2000 r.p.m. It takes its horsepower rating of 113 hp. at 1800 r.p.m., at which point it is governed for continuous maximum duty. A quiet center line double internal reduction gear of 2.1–1 ratio is available, adding but 8¾″ to the over all length.

The Kermath line of gasoline motors, with several new models, is also exhibited at the Show.

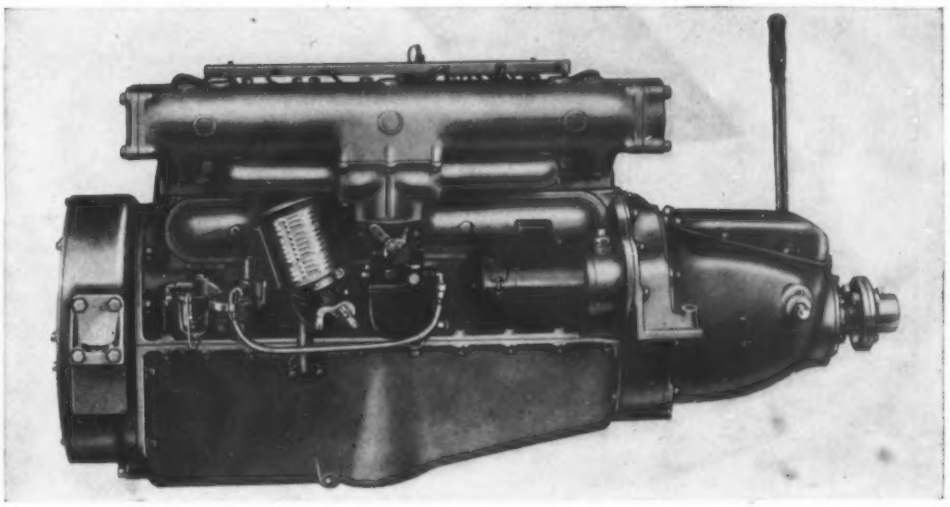


The new Kermath Diesel with a power range from 50 hp. at 800 r.p.m. to 120 hp. at 2000. Weight only 2000 pounds



The Kermath Diesel is comparable to the Kermath gasoline models in compactness, low weight and simplicity

Below. The Kermath "Six" Sea Mate, a recently introduced gasoline model. Rated at 90–110 hp.



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Texaco Products

PROMINENT on the third floor of the Palace is the exhibit of the Marines Sales Division of the Texas Company. The main body of the exhibit is attractively designed to display the many different products which the company makes especially for motor boats. The central section of the booth shows a Texaco waterfront service station with a cruiser coming alongside to get fuel, oil, mail and supplies. An ingenious arrangement brings life and action to the display, while changing lights simulate the effect of various times of day and night.

The three Texaco cruising charts of the Atlantic Coast, which were introduced to the yachting fraternity a year ago, have been revised and brought up to date in the 1935 edition. In addition, two new charts, covering the Great Lakes and the Hudson River, are available to boat owners. Last minute information may be had from the Texaco Waterways Service.

Texaco's part in speed boat racing is suggested by portraits of Gar Wood and George Reis, with their boats.

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Michigan Propellers

THE Michigan Wheel Corporation, manufacturers of Michigan "Machined-Pitch" propellers, is showing a line of these well known wheels and also a new repair device which will reveal any blade distortion and permit its quick correction. The new pattern equipment is built to accommodate propellers up to and including 36 inches diameter, and both right and left hand. The device is used as one important step in securing accuracy of pitch in making new wheels, and with it a damaged blade may be easily shaped to the correct pitch.

Cooper-Bessemer Diesels

WHILE the century-old Cooper-Bessemer Co. offers its well known Diesel motors in sizes delivering from 35 to 1500 horsepower, it has concentrated during the past year in the development of its "N" line, consisting of engines developing from 35 to 650 horsepower. In this range, three cylinder sizes have been developed and are in service. Starting with the smallest, Model BN has cylinders 5½ inches bore and 7¾ inches stroke, with ratings between 10 and 22½ hp., depending upon the speed and service. This model is available in 6- and 8-cylinder sizes, with marine reversing gear when required. The 3- and 4-cylinder sizes will soon be available.

Type EN has cylinders 8 inches bore and 10½ inches stroke, rated between 20 and 47 hp. per cylinder. It is available in 6 and 8 cylinders, direct reversing, and 3 and 4 cylinders with marine reverse gear.

Type GN has cylinders 10½ inches bore and 13½ inches stroke, rated 50 to 75 hp. per cylinder. It is available in 6 and 8 cylinders, direct reversing, and 3 and 4 cylinders with marine gear.

Type BN, the smallest, uses the Bosch *en bloc* injection system. Types EN and GN use an improved form of common rail type of fuel injector, a system especially well adapted to wide variations in speed. The new Cooper-Bessemer patented atmospheric relief reduces the fuel pressure directly against the nozzle to atmosphere between each injection. With this improved common rail system there is no tendency for nozzles to leak or dribble, combustion is clean and complete, and the load on the individual cylinders can be easily and permanently balanced.

Aside from the clean-cut, neat appearance of these new, modern Cooper-Bessemer Diesels, there are three outstanding features of design common to all of them. First, the high stresses which tend to separate the cylinder heads from the bases are carried by steel bolts which extend from the top of the cylinder heads to the heavy, trussed sections beneath each main bearing, giving greatly increased strength. Second, the power cylinder liners are bolted to the heads instead of being pinched between the heads and cylinder block. Third, a new patented wrist pin construction gives a greater area on the compression side; a single running tolerance instead of two, insuring quiet operation.

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A Ford Conversion

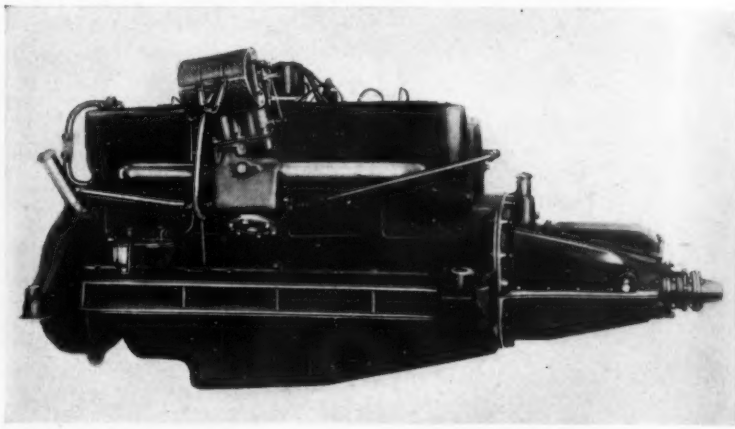
LEHMAN Marine Engineering Company shows its Model RV-40 Ford V-8 racing engine, the first public view of this engine. It has a new type of intake manifold, and uses two dual Winfield carburetors. All aluminum cylinder head gaskets, high compression heads, oil cooler, special valves and valve springs, exhaust stacks or manifolds, and one way clutch are other features.

The company also shows an all-bronze dash panel which is sold at a surprisingly low price.

Mobiloil Marine Oils

PETROLEUM products are being shown by the Socony-Vacuum Company, Inc., with special stress on Mobiloil Marine oil, Clearosol processed. This new process has been extended to include all grades of Mobiloil Marine, it is announced, and is expected to save boat owners a great deal of money in motor upkeep and repairs. The Clearosol process uses powerful solvents to "wash" the oil clean of natural impurities. The company, it is stated, has spent a fortune in developing and installing new equipment for the process, two new refineries having been erected to make oil in this new way.

The Clearosol process, it is declared, makes possible an oil that will last longer, eliminate gummed valves and stuck piston rings and make starting easier. It removes from the



The Straight Eight, Model U E, marine engine by Lycoming. It develops 165 horsepower

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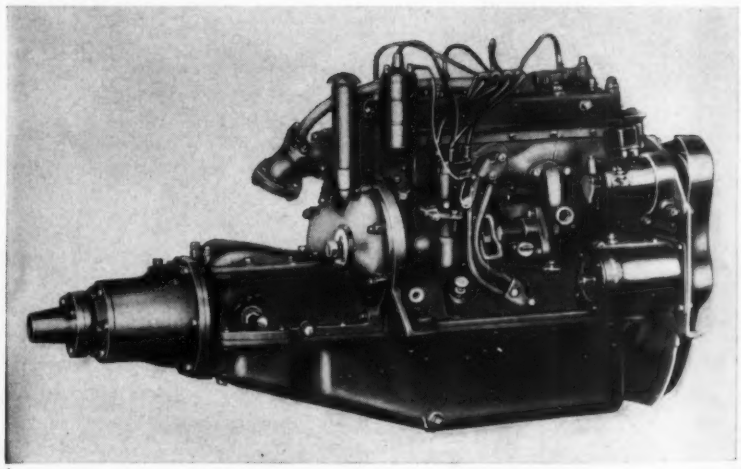
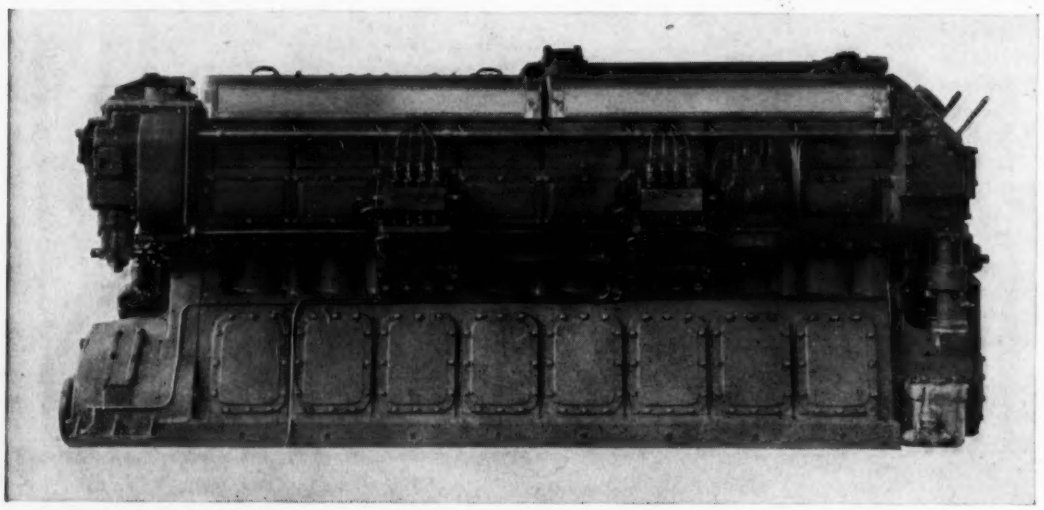


Another Lycoming engine is this 4-cylinder reduction gear Model U A D which develops 40 horsepower



The Cooper-Bessemer 8-cylinder marine Diesel engine, Type E N, showing fuel injection side. It has 8 inches bore and 10½ inches stroke

crude oil tar, gum and sludge to a high degree and minimizes carbon formation in the engine.

Chemists and engineers, a recent bulletin points out, have been for years seeking a way to refine out of the crude oil its harmful elements. The new process marks a distinct forward step in refining methods.

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Chrysler Marine Engines

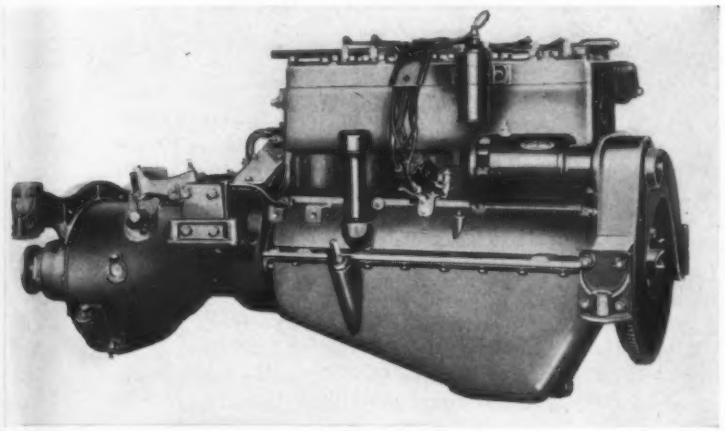
THE four improved models of the Chrysler marine engines, known as the Ace, Crown, Imperial and Majestic, are offered in both direct drive and with reduction gears. By the ingenious use of various reduction gear ratios, these four models cover a wide range of requirements of motor boat propulsion in runabout or cruiser.

Outstanding in this year's display is a cutaway Imperial reduction gear engine in operation, with every working part of motor, reverse gear and reduction gear in plain sight. There is also an Ace direct drive model, partially cut away to show design and construction.

The exhibit includes the Crown, a 6-cylinder 3⅜″ by 4½″ engine developing 93 hp. at 3200 r.p.m. Fitted with a 2½:1 reduction gear it delivers 60 hp. at 900 r.p.m. of propeller shaft. Then there is the Majestic, an Eight of 3½″ bore by 5″ stroke which delivers 152 hp. at 3200 revolutions. It is fitted this year with two updraft carburetors. In addition, there is the Ace CR, a 6-cylinder 3⅛″ by 4⅜″, developing 73 brake horse power at 3200 r.p.m. and fitted with a 2½:1 reduction gear, and the Crown CR with a similar gear.

Another interesting feature is the Chrysler special 600-watt 12-volt generating set, mounted in connection with a Crown reduction gear engine. The set is driven by a belt from a pulley on the forward side of the flywheel so that batteries may be charged continuously while under way. The generator output is controlled by a voltage and current regulator which protects the battery from overcharging and automatically adjusts the charging rate to the needs of the battery.

Chrysler Imperial and Majestic engines are now offered with either 2:1 or 2½:1 reduction gears. The helical tooth internal gears and pinions insure quiet operation.



The Chrysler Ace, a 6-cylinder reduction gear motor developing 73 hp. at 3200 r.p.m.

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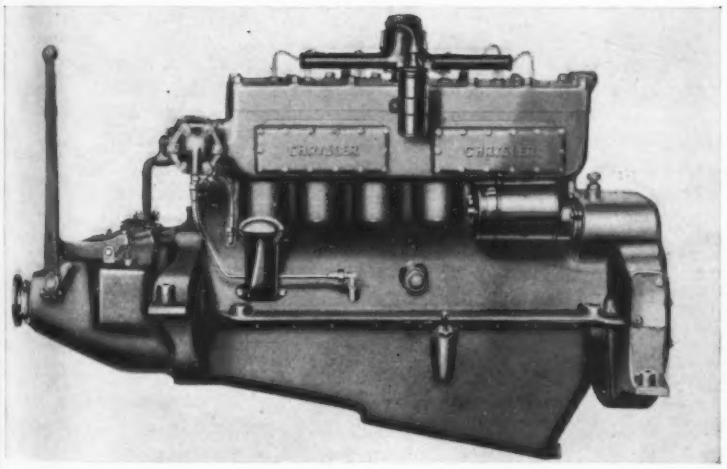

Another Chrysler is this Imperial straight 6-cylinder engine. It is also offered with reduction gear

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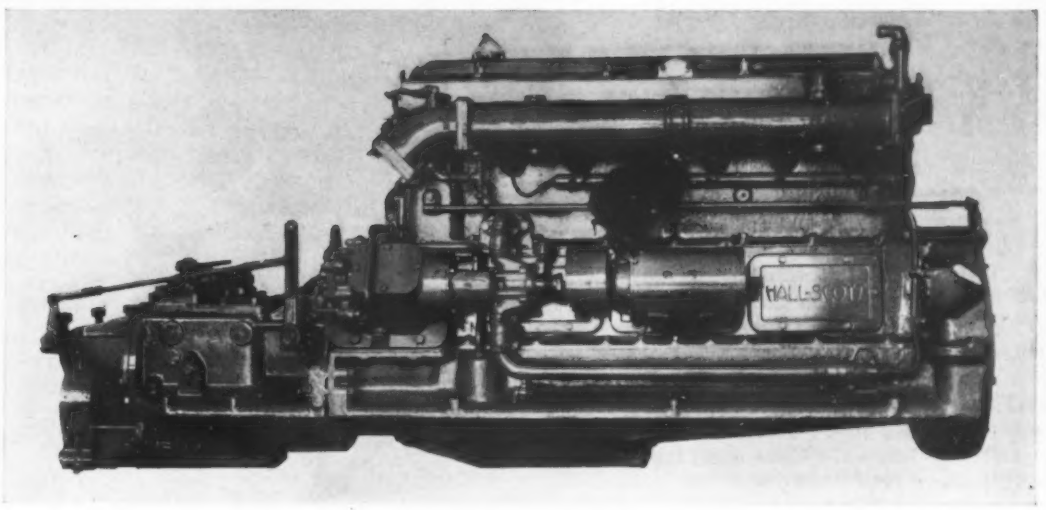
Hall-Scott Motors

THE exhibit of fine motors by the Hall-Scott Motor Car Co., of 254 West Thirty-First Street, New York, is quite similar to the line shown last year, including two Fisher Jr. models, three Invaders, and one Explorer, comprising motors from 40 up to 250 hp.

A number of refinements have been made on the Fisher Jr., among which are the installation of hand hole plates on the upper crankcase, making it possible to adjust bearings easily, or to clean the oil sump. This model is furnished with either single battery ignition, dual battery ignition, or a combination of battery and magneto ignition. A separate power take-off can be furnished on either the direct drive model or reduction gear job. Both models are adaptable to commercial type boats and should be of distinct interest to fishermen.

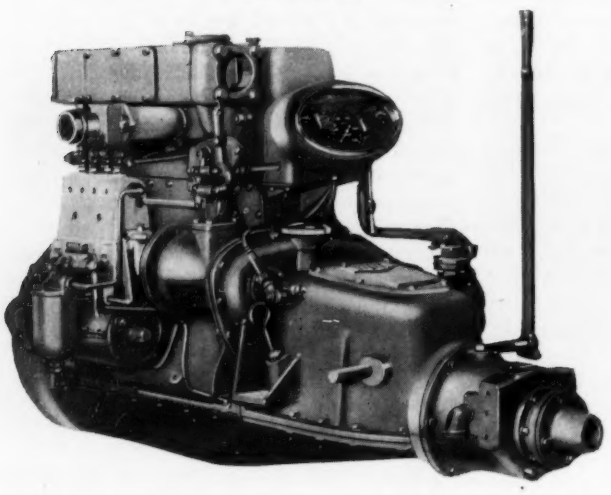
The three Invader models shown have different power outputs, one being rated at 250 hp. at 2100 r.p.m., another at 180 hp. at 1500 r.p.m., and the third, with reduction gear, at 250 hp. at either 700 or 1050 r.p.m. The Explorer is equipped with reduction gear, and rated at 190 hp. at either 600 or 900 propeller shaft revolutions.

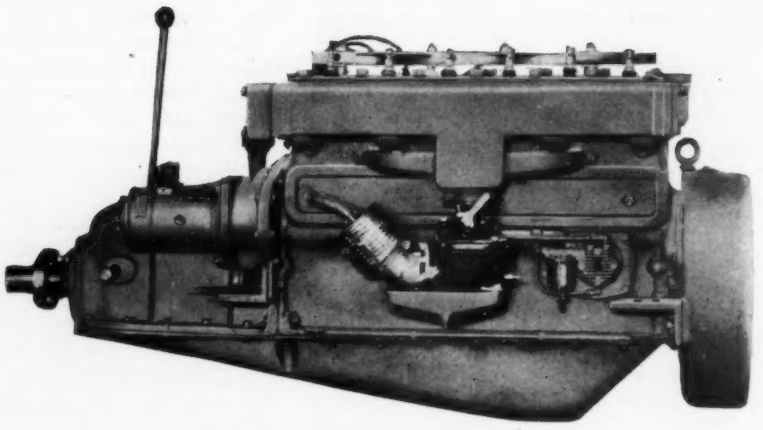
Hall-Scott motors have made an enviable record, in past years, for performance and reliability. With many small improvements, they should easily hold their place among the leaders during 1935.



Here is the Hall-Scott Explorer model with reduction gear, developing 190 hp. at either 600 or 900 shaft revolutions

Below. The Buda 4-DM-186 is a 4-cylinder, 3⅝ by 4½ solid injection full Diesel developing a maximum of 40 horse power





The HM-298 Buda is a gasoline engine rated at 81 horse power. The bore is 3¾ inches and the stroke 4½ inches

Buda Diesel and Gasoline Engines

SEVEN engines are displayed by The Buda Company, four of them gasoline and three Diesel. The gasoline motors range from the Model HM-205, a 4-cylinder $3^{13}/_{16}$" by 4½" machine of 56 hp., to the Model LM-525, a "Six" of 4½" bore and 5½" stroke which develops 122 hp. One engine is fitted with reduction gear.

The smallest Diesel in the display is Model 4-DM-186, 3⅝" bore and 4½" stroke, a 4-cylinder solid injection full Diesel. Its maximum power is 40 hp. Another is a 4" by 5½" "Six," while the largest is Model 6 LDM-909. This engine is a 6-cylinder 5¼" by 7" and develops 152 hp. All have large diameter crankshafts drilled for pressure lubrication to piston pin.

In all of these engines, both gasoline and Diesel, the reverse gears are extra large and are lubricated by force feed pressure. There are several changes from last year and a number of new features. The 6-cylinder gasoline models are equipped with the new Startix so that they start when the ignition is switched on. They also start again automatically if stalled. They have the new type of Stromberg carburetor and are fitted with a "V" pulley so that an auxiliary generator for lighting may be driven off the main engine.

The Diesels have new features and the 6-LDM-909 is a new engine. There is also shown a small generating set driven by the small 4-cylinder Diesel. It can be supplied in 3, 5, 7½ and 10 kw. units.

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For Watertightness

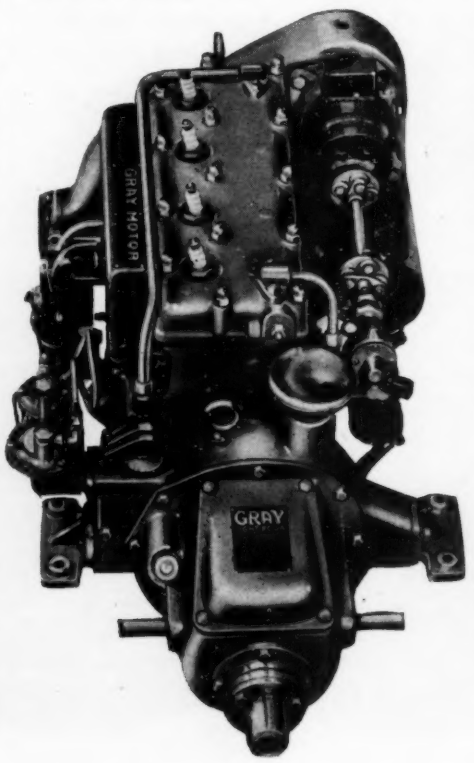
MATERIALS manufactured by the Stay-Tite Products are on display in Booth 70. These include Stay-Tite Caulking Cement, a putty-like compound for sealing cracks, seams and joints; waterproof liquid glue; Stay-Tite Sealer, for deck seams; Wood Crack Filler, used to fill dents, nail holes, etc.; and Stay-Tite XXX Cement, for laying canvas, linoleum, etc.

Gray Marine Motors for 1935

THE 1935 Gray Line of marine motors includes a total of 29 distinct sizes and models, made up of 4-, 6-, and 8-cylinder engines, and a single-cylinder model.

These motors are divided into two entirely separate groups. Cruisers, workboats and auxiliaries require certain special characteristics in their power plants suited to relatively slow and heavy boats that are used on relatively long trips and for a great many hours each season. Runabouts and racing hydroplanes, on the other hand, require an entirely different set of engine characteristics, tending toward light weight, compactness, high speed, and high power at high speeds.

The Gray Marine Motor Company recognizes both of these requirements and builds a special series of cruiser, workboat and auxiliary motors, in four, six and eight cylinders, with an effective range from 5 to 120 brake horse power. Especially designed for the peculiar requisites of fast runabouts and racing hydroplanes is another and entirely separate series of Gray Motors known as the "Phantom" series, and composed of seven sizes in 4-, 6-, and 8-cylinder models, with an effective range from 44 to 150 hp.



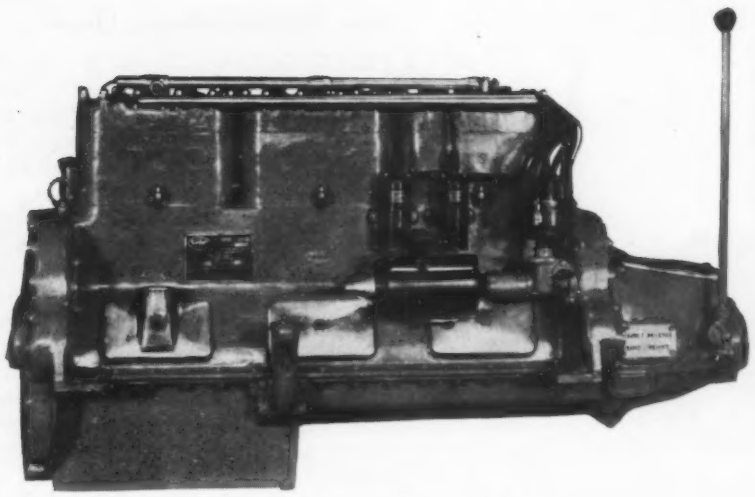
The Gray Light Four is a powerful and compact marine engine

Representative models of both Gray series are on exhibit on the Mezzanine Floor of the National Motor Boat Show, including several new models embodying many improvements, refinements, and with de luxe equipment included at regular prices.

One of the features of the exhibit is a new 6-cylinder 75 hp. marine motor, Model "Six-71," which is actually shorter in over all length and lower in price than were 4-cylinder engines of less power only a few years ago.

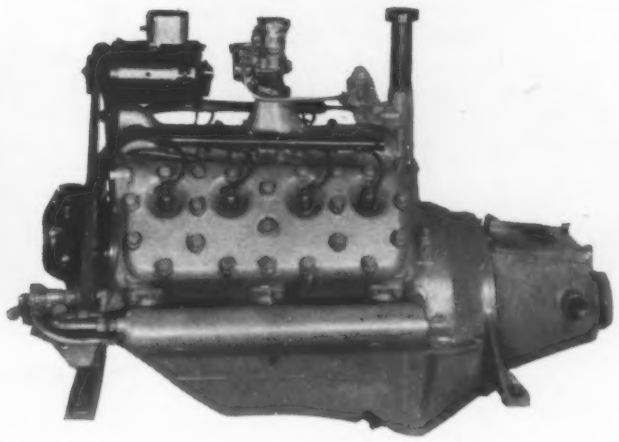
Featured prominently in the exhibit of cruiser, workboat and auxiliary type, medium and heavy duty motors, is an exclusive Gray development called the Thermoset, providing a simple yet positive means of controlling the operating temperature of an engine regardless of its condition, speed or the temperature of the outside water. This device has only one moving part and is integrally a part of the engine itself, permitting constant and positive control of temperature and resulting in a marked saving in fuel and longer engine life. Important features are:

1. A handy V-pulley attached to the forward end of each cruiser type motor, permitting the operator to drive an extra electric generator, bilge pump, or other accessories, with no greater expense than an ordinary V-belt.
2. An easily reached cleanout plate in the base of each engine, which permits the cleaning of the oil pump, oil pickup screen, and sump without removing it from the boat.
3. An attractive instrument panel complete with tachometer ammeter, oil gauge, lighting switches, and ignition switch.
4. Double ignition. All Grays except the very small motors have double ignition.



Model 154 Scripps is a 6-cylinder medium speed power plant

The Scripps Model 45 V-8 is a conversion of the Ford V-8 which develops 90 hp. at 3400 r.p.m. It fits the 225 Class



Scripps Motors

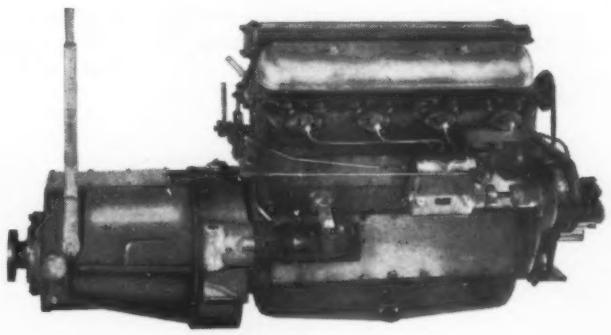
SEVEN engines are displayed in the booth of the Scripps Motor Co., two of which are being shown to the general public for the first time. These are the Model 45 V-8, the Scripps conversion for marine service of the Ford V-8. It is an 8-cylinder 90° V-type motor of 221 cubic inches piston displacement which develops 90 hp. at 3400 r.p.m. It is available for direct drive or with heavy duty reduction gears, 2.12:1 ratio. Its over all length of only 42½ inches allows a snug installation in close quarters.

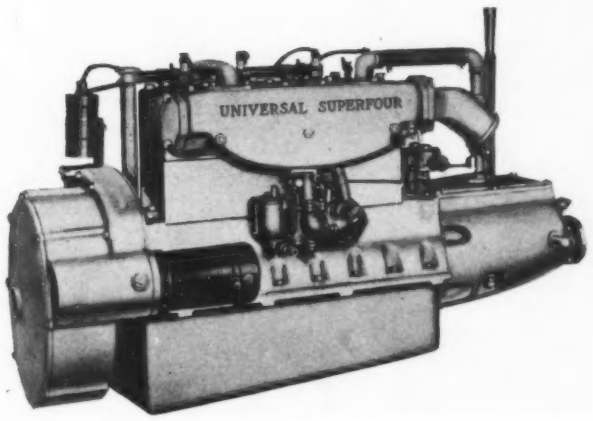
Also shown for the first time is the Model 204, a medium speed engine with straight line reduction gear, 2.43:1 ratio, developing 155 hp. at 740 r.p.m. of the propeller shaft. It is a 6-cylinder 5″ by 5¾″ engine of 677.4 cubic inches piston displacement. It is essentially a cruiser type of engine, of great power in moderate size and with a low center of gravity.

The popular Scripps F-4, 3¾″ by 5″, is on display in a reduction gear model rated 53 hp. at 900 propeller revolutions. The high speed model develops 81 hp. at 3000 r.p.m. The F-6 has the same bore and stroke and is also built in medium and high speed models, rated 81 hp. at 2000 and 120 hp. at 3000, respectively. Then there are the twin models 154 and 155, giving 110 hp. at 1800 r.p.m., both "Sixes," built right and left for twin screw installations. Model 202 is a high speed "Six" developing 210 hp. at 2300 r.p.m. It is widely used in runabouts and cruisers and lends itself to twin installations. Dual ignition insures maximum power and the automatic type distributor eliminates manual spark control. It has full pressure force feed lubrication and dual gear oil pump. Fuel is fed to the cylinders by an all metal mechanical fuel pump of the rotary type, self-priming and self-regulating. Cylinder blocks and heads are cast in pairs.

Model 302 is a high speed V-type 12-cylinder 4¼″ by 5¼″ engine of 894 cubic inches piston displacement. It develops 300 hp. at 2400 r.p.m. It is specially designed for fast runabouts and commuters of 26 feet length and larger. Its over all height is moderate so that it sets low in a boat and allows plenty of room for access to every part.

The Hill-Eight is a full Diesel with electric starting, a V-type engine rated at 200 hp.





The Universal Super-Four is a 43 hp. engine that is a salt water job throughout

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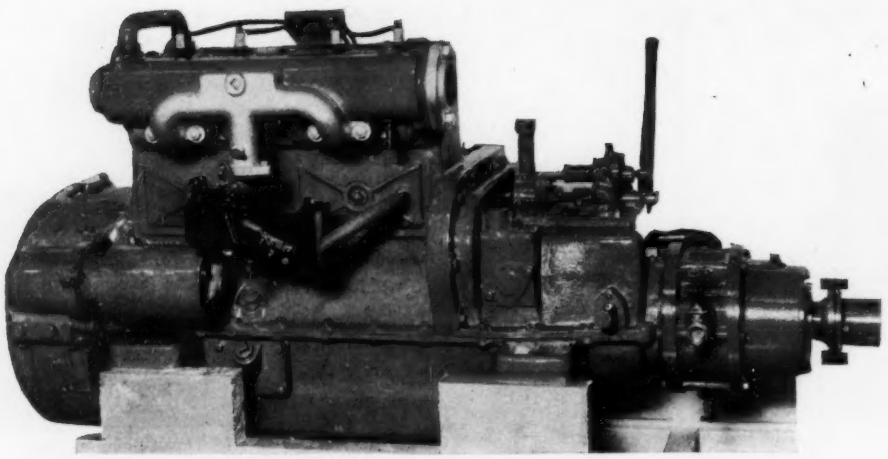
Universal Motors

PROMINENT in the display of the Universal Motor Company, of Oshkosh, Wis., is the new line of fuel oil engines. These are built in two, four and six cylinder models and their horse power ranges from 10 to 45. These engines are compact and light in weight and modern in design. The standard equipment is complete, including such items as built-in hand sump pump, built-in reversing gear, special carburetor with backfire trap, water pump with bronze gears, oil level gauge, oil pressure gauge, electric starter, ignition system, flywheel housing and cover, vacuum cleaned crankcase, crankcase breather, ignition switch, and hand starting crank.

Besides burning cheap fuel, the same grade that is commonly used for furnaces and in industrial plants, these Universal engines are extremely economical in their fuel consumption.

Among the Universal gasoline engines on display is the Utility Four, a compact, powerful engine built for salt water service that may be had either with electric starter or with magneto ignition, and with one model fitted with reduction gear. Hand rear starter is also available. All models are full pressure lubricated.

The Universal Super-Four, recently reintroduced to the boating public, is another interesting member of Universal's line. This engine is a salt water model and its power ranges from 14 at 1000 r.p.m. to 43 at 3000. The three-bearing crankshaft is large and is statically and dynamically balanced. Camshaft also is oversize and the bearings are ample. Large timing gears are driven by a silent chain with a convenient take-up. Pistons and rods are of aluminum alloy while cylinder block, heads and manifold are of special chrome nickel alloy iron.



The Red Wing Arrowhead, a 4-cylinder gasoline engine rated 24–45 hp.

The Super-Four is also built in a reduction gear model, with built-in gears. This is known as Model SLG-R. Without the electric starter but with magneto ignition, it is Model SLG-M. Model SLG-MR is the last named fitted with built-in reduction gear.

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Hill-Diesels

TO THE boat owner interested in Diesel engines, the exhibit of the Hill Diesel Engine Company, Lansing, Michigan, is most interesting. Manufacturers of Diesel engines for 19 years, this company is showing three up-to-date models, including a V-8 with reverse and reduction gears, rated at 200 hp. and weighing only 13 pounds per hp.

This engine has a bore and stroke of 5 inches by 7 inches, with cylinders cast *en bloc* at a 60° angle. This form of construction makes for a minimum of length and maximum rigidity. Because of its compactness (its over all length is only 93 inches), it lends itself to installation where the saving of space and weight are factors. It is also suitable for either twin or single screw installation, and for generator or other auxiliary power.

Another unit of the exhibit is the Hill 60 hp., 6-cylinder, 3½ inch bore by 6 inch stroke, light weight marine engine, suitable for medium size cruisers, or for auxiliary power for motor sailers. This engine is also built in 4-cylinder model of 40 hp. for propulsion or generator drive. For the latter service, generators up to 20 kw. can be operated quietly and cheaply. As this engine will operate on the same fuel as the main engines, the annoyance of providing two fuels is obviated.

A third Hill model at the Show is a 50 hp., 4-cylinder, 5 inch bore, 7 inch stroke marine engine, one of the "B" line engines, made in 1-, 2-, 3-, 4-, and 6-cylinder sizes, from 16 to 97 hp. While the "B" line Hill is a medium speed, moderate weight engine, the 50 hp. weighing only 2800 pounds, it is nevertheless a heavy duty, sturdy, dependable engine for work boat, fishing boat or yacht, and is good for years of heavy duty service.

The 6-cylinder engine in this line weighs only 4000 pounds and develops 97 hp. at 900 r.p.m.

New Fairbanks-Morse Diesel

WHILE Fairbanks, Morse & Co., of Chicago, are showing several of their well-known line of Diesel motors, interest in their exhibit centers on a brand new model — a 6-cylinder Opposed Piston Marine Diesel engine rated at 300 hp.

The new opposed piston type of motor is a highly refined engine in every way. The weight has been brought down to 20 pounds per hp., and at the same time improved scavenging and a greater virtual stroke-bore ratio has resulted in improved combustion efficiency. Construction has been greatly simplified by a substantial reduction in the number of parts, and therefore complications imposed by a multiplicity of parts have been eliminated.

The new motor is inherently balanced because the reaction forces of the two pistons in the cylinder oppose and tend to counteract each other. This leads to higher rotative speeds and a consequent reduction in weight. The elimination of cylinder heads by confining the combustion space between the two pistons not only improves combustion but also allows better cooling facilities at this point, and eliminates the necessity for gaskets.

These new motors are available in five cylinder sizes. Power capacities range from 50 to 300 hp. per cylinder, or, for the engine, from 250 to 2400 hp.

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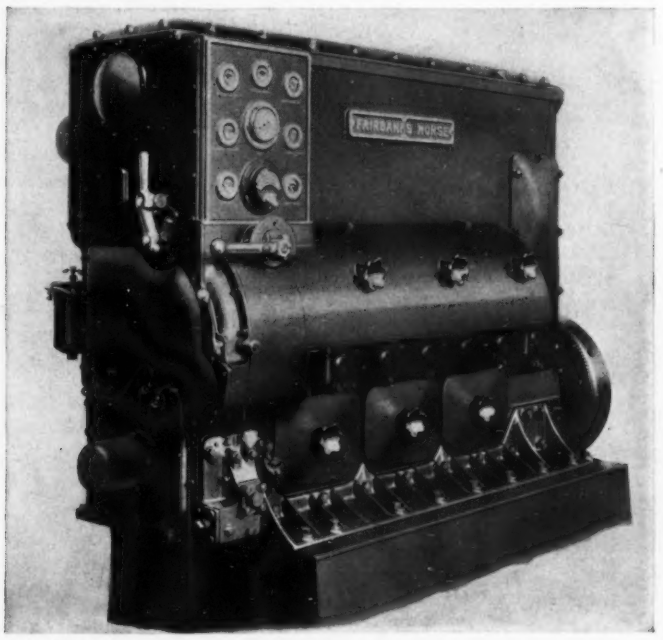
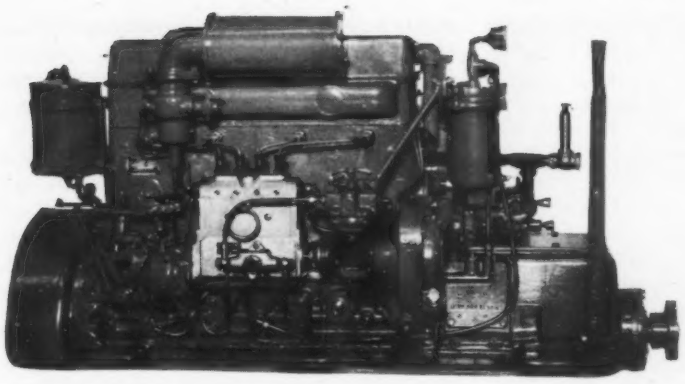
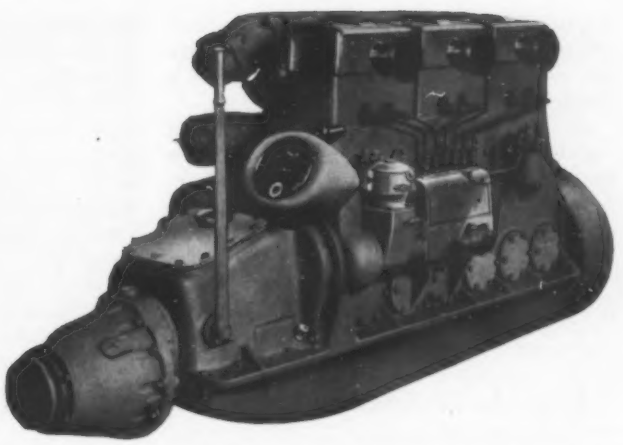
Red Wing Shows Oil and Gasoline Motors

THE Red Wing Motor Co., of Red Wing, Minnesota, not only has a representative line of Red Wing Thorobred gasoline motors on display, but is also showing the Red Wing Fuel Oil engine employing the Hesselman cycle. The gasoline motors, improved in many details, run all the way from 4 up to 150 hp., and include the popular Arrowhead model of 25–45 hp. which has been so suc-



Right. The Fairbanks-Morse two-cycle opposed piston marine Diesel is rated at 300 hp. It is a 6-cylinder 5" by 6" engine. A new engine is the Model 36 four-cycle, a "Six" of 5½" bore and 7½" stroke. It develops 120 hp. (Above)





Injection side of the Red Wing Waukesha Hesselman fuel oil marine engine. Right, the National Superior Diesel

cessful for both runabout and medium sized cruiser service.

Last year, showgoers viewed the Red Wing Fuel Oil engine with a hope that it would fill the need for a compact, light weight, efficient oil engine for medium sized boats. After a year's service in cruisers, auxiliaries, patrol boats, work boats and towboats, the Red Wing Fuel Engine has definitely arrived.

This outstanding motor employs the Hesselman cycle, and burns the cheapest fuel oils satisfactorily. It is high compression, but not so high as a Diesel. It takes up no more room than the ordinary gasoline engine, and may be installed in a medium sized boat without sacrificing valuable room. Among its many advantages are smooth running, smokeless exhaust, instant and positive starting, and distinct ease of handling. It is possible to start these engines by hand cranking, although an electric starter is furnished on all models.

Last year three models were introduced, running from 30 to 70 hp. So successful were these that two more models have been added to the line, one developing 150 hp. and the other 180 hp.

All these Hesselman-type motors are equipped with every convenience for operation, including built-in reverse gear, ample filtration for both fuel and lubricating oil, water cooled manifolding, quadrant speed control, and provision for regulating heat.

Cummins Diesel Engines

THE attractive exhibit of the Cummins Engine Company, Columbus, Indiana, includes two marine models — the "HMR" and the "L," both 6-cylinder — a 45 kw. Diesel generating set, and a cutaway engine to show internal construction. Cummins engineering developments during the past sixteen years have contributed much to the improvement and simplification of Diesel power for marine service, factors that are of particular appeal to owner-operators of yachts.

The latest model Cummins Diesel marine engine — model HMR — exemplifies these engineering advancements. This engine, available in 6-cylinder and 4-cylinder sizes (100 hp. and 55 hp. respectively, at maximum speed) is remarkably compact and light in weight, and offers many advantages. The 100 hp. has a bore and stroke of 4⅞" x 6", develops its rated power at 1500 r.p.m. and weighs 2500 lbs.

Important Cummins features, not found in most Diesel engines of conventional type, include low-pressure fuel control; a single, valveless fuel pump self-adjusting to engine speed and load, assuring accurate, uniform distribution of fuel to all cylinders; and an ingenious method of pre-heating and gasifying each fuel charge before injection, making for instant starting and positive, thorough combustion at all times.

An electric starting system is standard equipment, as is also a reverse gear assembly. As optional equipment, at additional cost, a convenient remote control from bridge or deck is available; also a reduction gear assembly in 2 to 1 or 2½ to 1 ratio.

When larger, slower-speed Diesels are desired, the Cummins model K, K-O and L marine engines, in sizes from 75 to 200 hp., are recommended. The company also manufactures compact Diesel generating sets for marine service, from 20 kw. to 100 kw.

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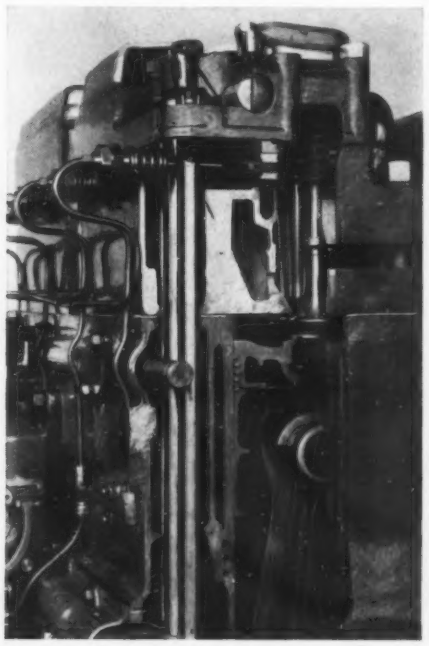
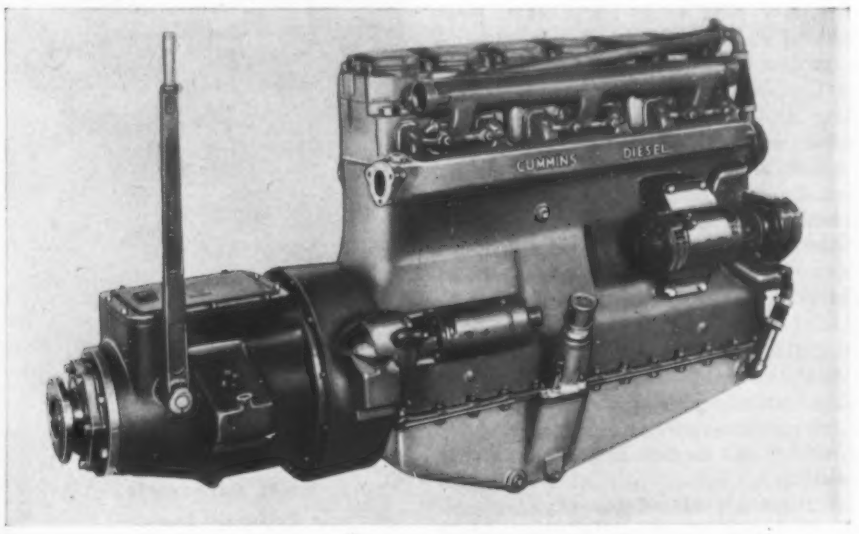
Superior Diesels

THE National Superior Co., of Springfield, Ohio, is exhibiting a new line of light weight, high speed, cold starting, solid injection Diesels. These are built in two-, four- and six-cylinder models, and incorporate the heavy duty features of the slow and medium speed Superior engines, such as *en bloc* construction, removable cylinder liners, oversize counterbalanced crankshaft, large main bearings, pressure lubrication throughout with complete filtering and cooling, centralized control and complete en-





Left, a cutaway Cummins Diesel showing the construction. Above, the Cummins HMR, a 6-cylinder Diesel of 100 hp.

closure. The range of speeds is wide, from 300 to 2000 r.p.m. The governor is sensitive yet powerful and the starting system is simple, but one lever being used.

An 8-cylinder 350 hp. direct reversing marine Diesel of the medium speed type is also being shown. Engine and flywheel are completely enclosed in an oiltight housing designed to make almost any part readily accessible.

The complete line of Superior Diesels covers a range of sizes from 65 to 800 hp.

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Evinrude-Elto Outboard Motors

THE Outboard Motors Corporation, builders of Elto and Evinrude outboard motors, has brought three new "hooded power" models, including a new low-cost single-cylinder motor, to the Motor Boat Show. Always progressive even through the period of the depression, the corporation has brought out many new models and added many improvements. Introducing "hooded power" for the first time last year, this feature of enclosing the outboard motor power head under aluminum coverings proved so successful that it is now incorporated in the new Sportsman Single, which sells at a low price. This new motor is of outstanding value; until now, this particular feature has been confined to two of Outboard's higher priced models.

There are nine basic motors in the Evinrude-Elto line, and major improvements are presented this year in all models. Besides the new magneto-ignition Sportsman, there are eight other models to form a complete power and price range in magneto or battery ignition.

The new Sportsman model develops 1½ N.O.A. certified brake horse power at 3500 r.p.m. which is ample to drive the average rowboat or fishing boat at speeds of 5 to 7 miles an hour maximum, or approximately three times the average rowing speed. The motor weighs only 24½ pounds, just about one-third the weight of Ole Evinrude's first outboard, which developed only about 1 hp. The new Sportsman is not only the lightest, but also one of the most beautiful of the new outboards. Parts have been eliminated and simplified so as to procure compactness and it presents the utmost operating flexibility, capable of extremely slow trolling speeds as well as high. Fuel consumption is low and the magneto gives a hot spark, assuring quick starting. Tilt-up and stern angle adjustment features are standard.

Outboard Motors Corporation has endeavored to make the Twin Fisherman model meet every requirement of the sportsman, and the response of fishermen has been most gratifying. This year the Fisherman carries the special patented Co-Pilot, and is equipped with an improved carrying handle and new grease seals in the lower unit to keep the motor clean as well as to prolong gear lubrication.

Bass fishermen will welcome the announcement of a special Weedless Fisherman model that will push a boat through weeds that seem thick enough to walk on. Selling at a price only ten dollars higher than that of the Standard Fisherman, the Weedless model has a special angle drive of such design that neither bulrushes nor thick grasses bother it. Lakes long closed to outboard boats because of their weedy condition will now be open to the fisherman. Completing the popular Fisherman series is a reversing model.

One of Outboard's models operates on electricity, driving small boats at reasonable speeds, smoothly and noiselessly, since its entire power comes from standard storage batteries, and starting and stopping is accomplished by simply closing a switch.

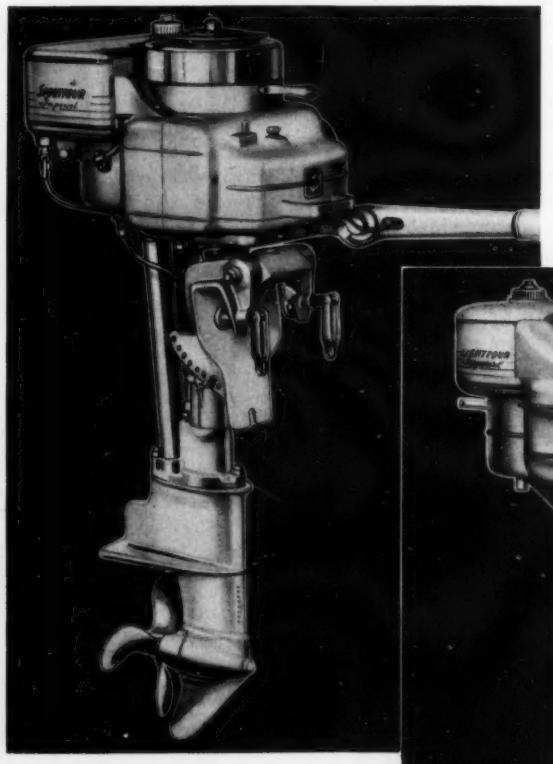
The Outboard Motors Corporation continues its production of three popular racing models, the smallest of which is the 38-lb. Midget; the largest the "460" which is capable of speeds better than 60 miles an hour. In between comes the Racing Speeditwin, a popular 2-cylinder racing motor. The Midget is a motor probably destined to win great racing popularity. For the man who must count the cost these days, here is a racing outfit that leaves little to be desired. Evinrude-Elto Midget models are capable of 28 miles an hour.

The Lightwin offers 4.6 N.O.A. certified brake horse power at 3750 r.p.m. This model appeals strongly to the sportsman with whom fishing is more or less incidental and who is primarily seeking reserve power to drive his boat at faster speeds. Lightwin is of the opposed-cylinder type, with check valve carburetor. It has rubber mounting, Co-Pilot, and other Imperial features.

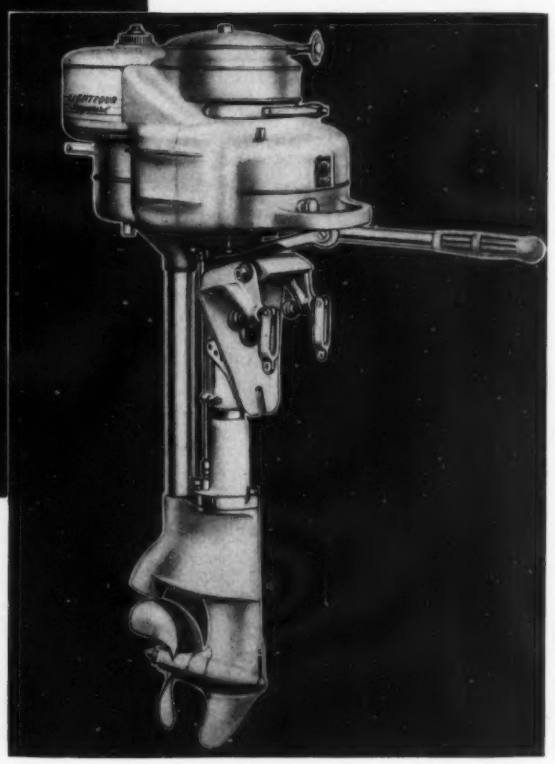
Lightwin Imperial is a de luxe edition of the Lightwin Model and develops 5 hp. at 4000 r.p.m. It operates on the alternate firing principle, which means that each cylinder fires separately, providing great smoothness and extreme flexibility from high speed down to a trolling crawl.

The Lightfour Imperial, developing 9.2 hp. at 4000 r.p.m., proved a sensation last year. This model is again offered with a number of refinements, and its companion motor, Sportfour (developing 16.2 hp. at 4000 r.p.m.), now joins it with hooded power. The largest service motor, the Speediquad, capable of driving huge outboard runabouts at 30 miles an hour, also now features hooded power and a number of other refinements.

Rubber mountings are to be found in the standard Lightwin, Lightwin Imperial and Lightfour Imperial. With the engines thus floated in rubber, the steering handle and the boat lose all trace of powerhead vibration. Further developing the use of live rubber mountings, the propellers of Lightwin, Lightwin Imperial and Lightfour Imperial now drive through flexible rubber bushings, which permit the propeller to flex freely at least 90 degrees when an obstruction is struck. This rubber cushioning of the propeller not only protects the mechanism and reduces the necessity of replacing shear pins, but the bushings act as self-adjusting shock absorbers, automatically balancing any reasonable degree of unevenness in weight of blades or variance in pitch which may have arisen through injury. This rubber-cushioning permits the use of light weight aluminum alloy propellers, thereby reducing over all



Below. Lightfour Imperial is modern to the last word, with Hooded Power, rubber mountings, etc.



The Outboard Motors Corporation Sportfour Imperial, a quad in Hooded Power style

weight and adding to operating smoothness.

Perhaps no feature of Evinrude and Elto motors is more prized by outboard boatmen than the patented Co-Pilot. This simple device takes hold of the tiller when it is let go, permitting the helmsman to get up and move around during a long run while Co-Pilot does the steering. It's standard on all Fisherman models, as well as on the Lightwin Standard, Lightwin Imperial and Lightfour Imperial.

Twelve-volt electric starters at an additional price are available on Sportfour Imperial, Speeditwin and Speediquad Imperial. Outboard Motors Corporation engineers have modernized and perfected the 12 volt electric starting system with which these motors are equipped, so that "touch of the button operation" is now a reality.

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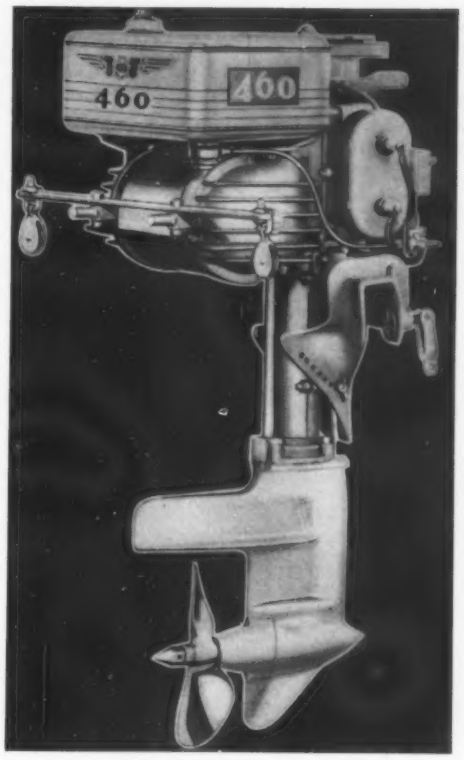
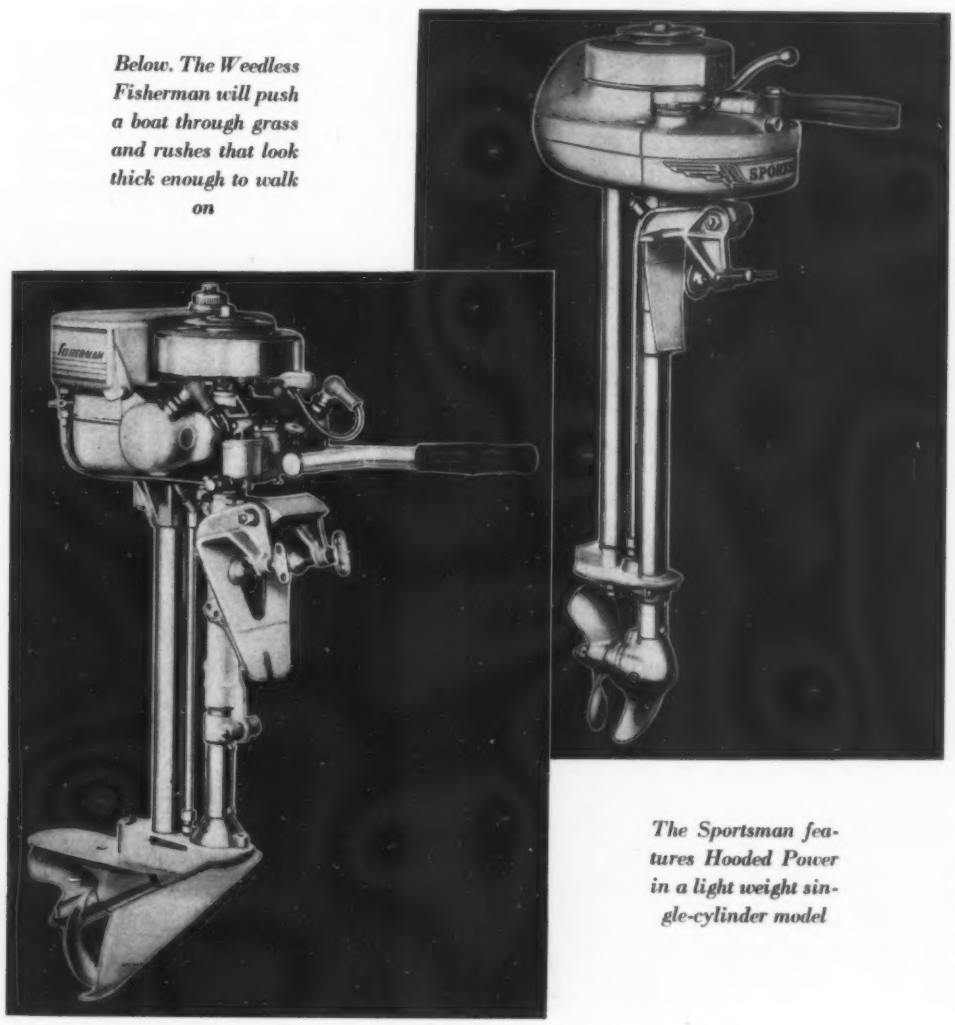
Shafting and Fastenings by The American Brass Company

THE central feature of the American Brass Company exhibit, on the third floor of the Grand Central Palace, is an interesting line of Tobin Bronze and Tempaloy propeller shafting. Other displays show Everdur screws and fastenings, Everdur marine castings and Everdur all-welded tanks. Nickel Silver moulding and trim, Anaconda Deoxidized Copper Tubes and Cast Bronze and Wrought Copper Fittings attract the careful attention of boat owners.



The Model 460, a 4-cylinder engine, is the largest of the Outboard Motors Corporations racing jobs

Below. The Weedless Fisherman will push a boat through grass and rushes that look thick enough to walk on



The Sportsman features Hooded Power in a light weight single-cylinder model

Columbian Propellers and Fittings

THE word "Columbian" is usually associated with propellers, and rightly so, for Columbian propellers have for years been the standard by which others have been judged. You will find plenty of Columbian wheels at the Show, and receive plenty of helpful advice in solving your propeller problems.

But that's only half the story. For Columbian makes, and is showing, many other bronze and brass products of highest merit — cast bronze rudders, with appropriate rudder ports, tillers, quadrants, etc.; a new double arm, adjustable bronze strut suitable for cutless rubber, bronze or babbitt bearings; rotary type circulating pumps, struts, stuffing boxes, stern bearings, etc. Of special interest are the two typical wheel boxes, on which are located the five popular types of Columbian clutch controls, new solid bronze steering wheel and the popular five-spoke mahogany wheel.

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Exide's Floating Battery System

THOSE interested in improving the operation of the electrical system aboard their boats are sure to be interested in the exhibit of the Electric Storage Battery Co., of Philadelphia, showing the famous Exide Marine Floating Battery System.

A complete system is shown in operation, which includes Exide's batteries, motor generating set, switchboard, lights and auxiliary equipment. Demonstrations show that with generator running and carrying a certain load, there is no flickering of lights when a heavy additional load is thrown suddenly on the system.

The Floating Battery System offers many operating conveniences and economies, having proven highly successful in hundreds of installations aboard yachts and commercial vessels.

Cutaway cells of many types and sizes show exactly how Exide batteries are made. A full line of Exide Ironclad batteries, for use aboard the smallest yacht or large ocean liner, give a comprehensive idea of Exide's scope.

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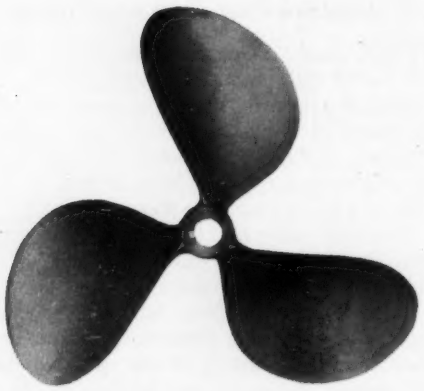
The Wilbur Extinguisher

THIS fire extinguisher, manufactured by the Wil-X-M'F'G Corporation, has been approved by the U. S. Steamboat Inspection Service, the Underwriters' Laboratories, and the Factory Mutuals of New England. Pump and container are separate, the pump swinging down when not in use and sealing the container valve so that the liquid cannot leak out or evaporate. When required for use, the pump and nozzle section is swung up to the horizontal, opening the valve. Operation of the pump puts an air pressure on the liquid, forcing it out of the nozzle. Even then, the liquid does not come into contact with the pump, so that the working parts never gum up or corrode.

The liquid is a non-conductor of electricity and has an extremely low freezing point. It is deadly to fire and harmless to anything else.



Federal-Mogul's Equi-Poise custom built propeller

A New "Custom Engineered" Propeller

ONE of the centers of attraction at the comprehensive exhibit of the Federal-Mogul Corporation, Detroit, is the new Equi-Poise Propeller, which marks an important development in propeller design and construction.

The Equi-Poise is a custom-built wheel, developed by Federal-Mogul's propulsion engineers. Originally created for such flyers as *Miss America X*, *El Lagarto*, and *Hornet*, the Equi-Poise is now available as a custom-built job, engineered to meet the specific requirements of any boat for which it may be ordered. While one wheel ordered in this way naturally carries a premium price, duplicates will then be available to the owner at more nearly standard cost. For boat owners who demand the highest performance and every ounce of power and speed from their craft, this service opens a new range of possibilities. Guaranteed against failure in normal operation, the Equi-Poise has great resistance against distortion, corrosion or breakage. The perfecting of these wheels has included thorough research in the subject, from the mechanical, physical, chemical and metallurgical standpoints. The Chris-Craft Company has already adopted Equi-Poise propellers, "custom engineered," to meet the exact needs of each model.

Vying in interest with Equi-Poise propellers is the new copper cylinder head for marine engines which the Federal-Mogul Corporation claims produces more power with less fuel consumption than is now possible with aluminum or cast-iron cylinder heads.

The Federal-Mogul spare propeller carrier is again on exhibition. Already widely used by boat owners, it provides a low-cost, compact means of stowing a replacement wheel for use in emergencies.

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Sail Boat Equipment at Tiebout's

THE old and reliable firm of W. & J. Tiebout, of 118 Chambers St., New York, dealers in all kinds and varieties of marine hardware, has a big display this year, but is specializing on sail boat equipment. Two boats — a Star and a Snipe — are shown, each fully rigged and equipped with Tiebout or Rhody hardware and gadgets. There is also a comprehensive display of CO_2 fire extinguishers, Cunningham Air and Electric Horns, and other safety appliances.

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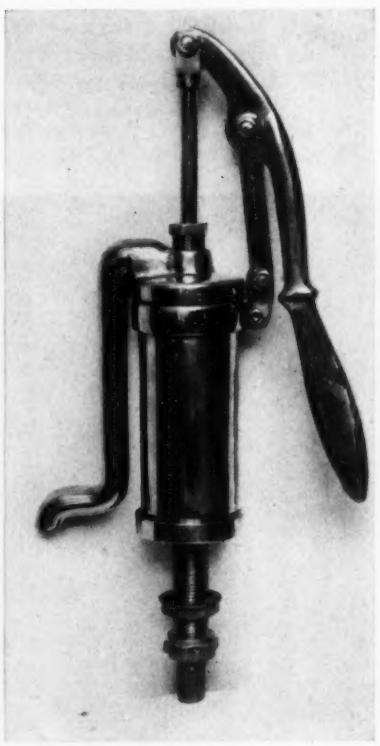
Marine Gadgets

THE exhibit of Wilcox, Crittenden & Co., manufacturers of the complete line of "Dependable" marine hardware, fittings, navigation lights, etc., is laid out so that visitors may "browse around" and look over the display to their hearts' content. The latest designs in hardware, fittings, lavatory equipment, running and anchor lights and so on are all spread out with this in view. Yachtsmen may examine all the latest devices and put their problems up to the attending staff, who are thoroughly acquainted with boat needs.

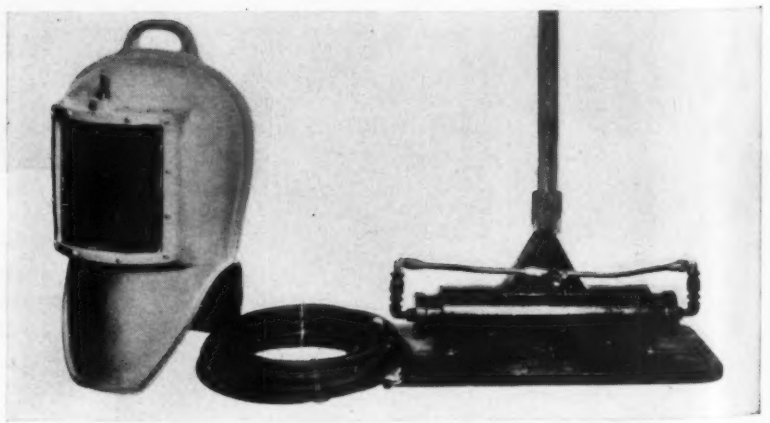
During the year the company has made every effort to improve manufacturing processes with the purpose of obtaining lower costs. "Depression prices" on many articles have been maintained and have even been reduced on certain items.

Everything, from masthead lights to underwater fittings, is on display, with many new items and improved models of old ones.

Wilcox, Crittenden & Co. electric side light



Lavatory pump of polished bronze by Wilcox, Crittenden & Co.



The Willis diving hood and air pump

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Laughlin Marine Hardware

ONE of the largest lines of fine marine hardware at the Show is being shown by the Thomas Laughlin Co., of Portland, Maine. The exhibit contains too many items to be properly described here, but mention should be made of their well-known bronze yacht blocks in improved form, which are shown in every detail.

Many showgoers will be surprised to find that much of the hardware and many of the fittings which they have known for years are manufactured by the Laughlin Co.

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The E. J. Willis Company

IN ADDITION to an extensive display of hardware and fittings for yacht use, the E. J. Willis Company exhibits a number of new items of interest to the yachtsman. Among them is the new Willis "Seahair," a rubber coated hair for making mattresses and cushions that are vermin proof and waterproof, porous and buoyant. This material is available in standard sizes and thicknesses, may be cut to any shape or moulded to any special form.

The new Branford water cooled lighting plant is driven by a water cooled engine of 1.6 hp. and delivers 750 watts at 32 volts. Each plant is complete with automatic cutout, ammeter, etc.

The Branford water cooled dinghy engine is a four-cycle L-head motor rated 1.6 hp. at 1800 r.p.m. and weighing 85 pounds. It occupies a space of only 11″ by 12″ and 15″

high. It may be furnished with 3:1 reduction gear and twin disc clutch.

In a new alcohol stove on display the burners, tank and frame form a complete unit. The adjustable burners are of a new pressure design, giving either a low or high flame.

Other new items displayed are a dome light, a low priced diving helmet and air pump, and "Titeflex" tubing, for which the company has been appointed exclusive distributor. This may be bent without special tools to any radius within its working limits.

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Perkins Has New Line and New Name

HAVING added so many items of yacht equipment to its output, the Perkins Marine Lamp Co. has changed its name to the Perkins Marine Lamp and Hardware Corporation, and is on the job at the Show with a fine exhibit. Of course, the Perkins lamps are there, as are the Perkins Alcohol Stove, Roasting Oven, and Water Heater. The new line of sail boat equipment, consisting of some 75 items, is one of the most complete ever manufactured by one concern. Perkins uses magnesium bronze in profusion, this being a metal considered to have the highest tensile strength of any of the non-ferrous metals.

One of the new and interesting items is the all-purpose compass, for automobilist, speed boat, cruiser, or wherever and whenever a thoroughly reliable compass is required. The original compass used by Admiral Byrd on his first Arctic Expedition is shown in all its glory.

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Ritchie for Nautical Instruments

ANYONE who has been in the boating game for any length of time knows that the word Ritchie is synonymous with quality in nautical instruments. The exhibit of E. S. Ritchie & Sons will tell why. Here are fine nautical instruments in profusion — compasses of all kinds and sizes, such as the Globe Underlit Dynamic Card Compass, specially mounted motor boat compass, two types of radio compasses and direction finders, and many other nautical instruments.

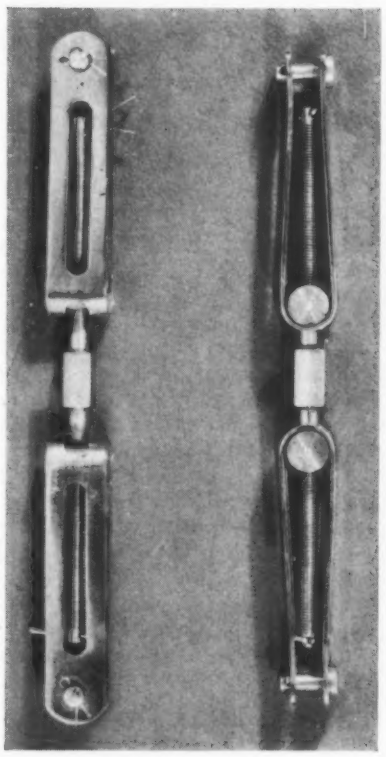
Ritchie's booth is both interesting and instructive. Don't miss it.

Cutless Bearings

THE display of Lucien Q. Moffitt, Inc., national distributors of Goodrich Cutless bearings, includes a testing machine showing several types of bearing in actual operation under service conditions. Here one can see what happens to bearings and shafts when operated in sandy water and learn why sand or other abrasive does not score the shaft and bearings when a Goodrich is used. It is an interesting demonstration of the value of rubber as applied to tail shaft bearings.

The new Rajah spark plug

A Goodrich Cutless bearing



Strut, shaft and propeller exhibited by General Alloys Co.

Also on display is a line of Cutless bearings of various sizes and types, including one such as those used in the new 165-foot Coast Guard cutters. Stern frame castings fitted with Cutless bearings are also exhibited.

A full size sectional view of the stern of a boat is shown, illustrating how other types of bearing may be replaced by Cutless bearings without altering the structure of the boat. The back wall of the booth shows a large section of a Cutless bearing and recounts its advantages.

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Sea Steel Marine Fittings

IF YOU are looking for any kind of a stainless steel fitting for a yacht — cleat, chock, steering wheel, ship's bell or shackle — don't fail to visit the fine display of Sea Steel fittings shown by the General Alloys Co., of Boston, one of the oldest and largest firms in the country devoted exclusively to the manufacture of nickel-chromium alloys. Not only does Sea Steel exceed Navy specifications, but the fittings themselves were designed by George Lawley & Son Corporation, of Boston, which just about puts them in a class by themselves.

Besides marine hardware, there is an attractive display of decorative panels in Sea Steel, as well as Sea Steel Kloizenay, consisting of colored fused glass on stainless steel background. These make beautiful plaques and markers.

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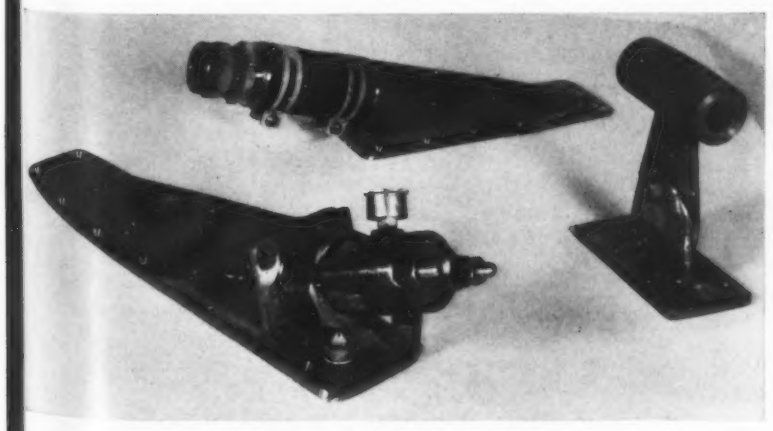
A New Spark Plug

DISPLAYED by the Rajah Company, of Bloomfield, N. J., is a brand new spark plug just developed. It is ruggedly built, being guaranteed against any defects in material and workmanship, and the seven models manufactured will service practically every make and model of marine engine. An interesting feature is the fact that universal thumb nuts are fitted to each model of plug. Look for them on the third floor of the Palace.



The General Alloys turnbuckle is neat, light and strong

Perkins shaft logs and adjustable strut

Palmer Shows New Ford V-8 Conversion

FOR many years Palmer Bros. Engines, Inc., of Cos Cob, Connecticut, have been justly famous for their diversified line of high grade motors for all sizes and types of boats. While many of their tried and true engines are still on the job, Palmer Bros. have not stood still in engine development. Each year sees a new model. This year, showgoers have a real treat in store, for a new and scintillating Palmer has been added to the flock — a splendid conversion of the Ford V-8 motor.

Critical inspection will show that this Palmer-Ford has been well done. An entirely new cast iron base, in place of the stock sheet iron base, ensures long life under salt water conditions. It provides extreme stiffness, and reduces vibration. The entire automobile transmission has been eliminated, and the Palmer multiple disc clutch and reverse gear put in its place.

The water cooling is a unique system, and includes water cooling the exhaust manifold. Due to a single outlet, it maintains uniform temperature in both cylinder blocks. The standard Palmer water pump is used.

A new manifold is used, permitting one exhaust pipe instead of two. This materially reduces cost of installation and permits a high outlet, so that the exhaust at the stern is above the water level. Both the starter and generator have been elevated so that they are up out of the wet, and accessible.

Palmer has turned an automobile motor into a high grade 100 per cent marine engine.

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Monel Metal Propellers and Shafts

THE propeller shafts which transmitted the power from the engines to the propellers of "Gar" Wood's *Miss America* in the latest race for the British International Trophy are a feature of the display of the International Nickel Company. The exhibit also includes Monel propellers, nuts, screws, bolts and other fastenings as well as typical galley equipment. While Monel propellers were shown last year, there are more of them on hand in the present Show, as the company's production facilities have been increased so that a number of standard sizes are on display.

The quietness of the under water exhaust is an outstanding feature of the modern outboard. No vibration and only a soft purr from the Elto

Valspar's New Line of Yacht Finishes

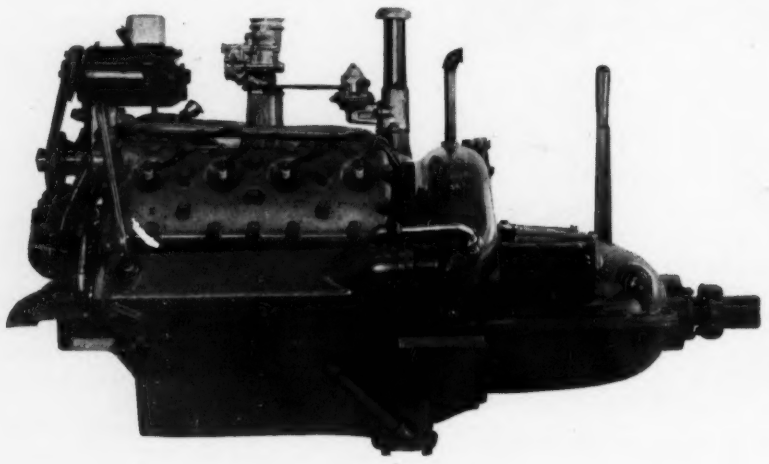
AN ENTIRE new line of Valspar yacht finishes, featuring improved quick-drying, spot resistance and anti-fouling qualities, has been brought out for 1935 by Valentine and Company, and is being introduced to the boating public at the Motor Boat Show, where, incidentally, the exhibit occupies double the space used last year. It has been the aim of the Valspar corporation, whose president, Lawrence Phillips, is himself a boating enthusiast, to produce a complement of varnishes and yacht finishes to take care of the paint needs of all pleasure craft.

Topside paints, deck paints, cabin enamels and boot toppings are offered in a wide variety of colors. Many other special marine finishes are included in the new Valspar marine line. These range from bottom paints containing a high percentage of anti-fouling properties, to fume proof enamel for use in the engine room and galley. The complete line contains some 28 different items. Two spar varnishes, the oldest and most famous of Valspar products, are to be found. The new Valspar Marine Spar is a heavy, weather resisting finish of extreme durability for outside use. Super Valspar Clear is for outside work where quick drying is essential, and for all interior uses. Both are waterproof and hard wearing.

Featured in the topside finishes is a new shade of Midnight Blue, an anti-spotting enamel which will stand off oil and other water marks. Eight other yacht finishes for topside use are offered in various shades of white, black, green and gray.

Among the five Valspar bottom paints is a new yacht bronze for wood bottoms which gives a smooth metallic finish, resembling sheet copper in appearance. Valspar Malabar is a brown anti-fouling paint which turns to a rich bronze in the water and also is for use on wood bottoms. Emerald green anti-fouling paint can be used on either wood or metal, and Valspar anti-fouling compound is an all-around finish for any type of bottom. The Valspar hard racing green compound gives an extremely hard surface for racing bottoms and can be rubbed to a smooth finish.

Valspar boot topping also contains the new anti-fouling properties. A red lead primer is for use on either wood or metal bottoms, while Chromarine is a primer especially made for boats of metal construction to prevent rusting of hulls and other exposed parts.



Palmer Bros. Engines have brought out this Ford V-8 conversion for marine use

The 14-foot Kyle Bulldog, designed by Megargel & Gruber, is a real little boat *(see page 91)*

Johnson Outboards

SIX new Sea Horses are shown by the Johnson Motor Co., the new Aerobilt Model "300" heading the list. It develops 3.7 hp. at 4000 r.p.m. on a piston displacement of 7.6 cubic inches and weighs 37 pounds. Model J-75, the Light Single, has a number of new features while retaining the familiar ones.

The Model F-75, the Light Twin, has a new lower unit. It is a twin developing 3.3 hp. at 3000 r.p.m. Then there are the Alternate Firing Twins, Models A-75 and K-75, both of which develop more power than formerly. The A-75 now gives 4.5 hp. at 4000 r.p.m. and the K-75 9.3 hp. at the same speed. Spark plugs are now protected from spray by a hinged casing, yet they are instantly accessible. Besides other valuable features, an exhaust cutout acts automatically when starting or running at low speed.

The opposed twin of 30 cubic inches piston displacement is now known as the Model P-75. Like the others in the line, it has been improved in many ways and the power has been stepped up to 22 hp. at 4000 revolutions.

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Hyde Windlass Company

ONE of the most important adjuncts to a yacht is a propeller, for no matter how good your motor may be, you will not get real results unless you have the right propeller on the outboard end of the shaft. Whatever your needs may be, stop in at the exhibit of the Hyde Windlass Co. For here are propellers in profusion — big wheels, little wheels — solid wheels, feathering wheels — two-bladed and three-bladed — propellers for every motor and every boat, made by an old reliable firm whose knowledge and reputation assure you of getting the right wheel without question.

Besides propellers, Hyde is showing a comprehensive display of their world-renowned electric and hand winches, stern bearings, and other marine fittings.

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For the Careful Navigator

THE Kelvin & Wilfrid O. White Company, of Boston and New York, is on hand again in its old stamping ground, Space 69. Here are shown the latest types of nautical instruments and navigational devices.

Among them are the new Kelvin-White Spherical Compasses and Binnacles. During the past year this type has been adopted by the American-Hawaiian Line for its entire fleet of steamers, and also by the U. S. Coast Guard for the new patrol vessels built during the year. Both of these awards were made only after months of tests and sea service.

The Kenyon Marine Speedometer is again on display. The fact that it was used last season in *Rainbow*, *Endeavour*, *Yankee* and *Weetamoe* is of interest to the yachtsman.

A new model of the Bludworth Radio Compass is attracting attention because of its compactness and moderate price. This Bludworth "Scout" is adapted for service on yachts and small commercial craft. Its price is within reach of the average boat owner.

In addition to the articles featured, the standard navigational devices are on display.

The new Johnson Aerobilt Twin Outboard "300" which weighs only 37 pounds

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"Sparox," a New Marine Coating

IN BOOTH 62 the Stanley Chemical Company, of East Berlin, Conn., is introducing "Sparox," a new clear marine coating. This company, a newcomer to the Show, is affiliated with the Stanley Works of New Britain, Conn., with whose products the entire motor boat industry has long been familiar. Stanley tools have been used by boatbuilders and other manufacturers for many years.

Exhaustive tests have been made before offering this new product to the marine trade. These tests extended over a period of more than three years, in Florida and elsewhere, and the exhibit at the Show consists in part of the evidence of these tests.

Some of the features of "Sparox" claimed by its producers are: speed of application (two coats can be applied in a day); unusual resistance to the action of sun, rain and salt water; extreme toughness and adhesion (it does not scratch white); lightness of color and clarity that reveals and retains the desired effects of stain; it neither loses its color nor spots from water and it has a minimum change of color on aging.

Be sure to get the 24-page booklet about "Sparox" which contains an extensive fund of information for the boatman.

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Pettit Paints

ON THE third floor, in Booth 18, is the display of the Pettit Paint Company of Jersey City, N. J. The products exhibited are: Pettit's "Jersey City" copper paints, McInnes green anti-fouling composition, Pamlico racing composition, Old Salem copper bronze, yacht white and yacht black, Shipendec paint, seam compound and composition and engine enamels.

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Smith's Cup Defenders

THE feature of the exhibit of Edward Smith & Co., world-renowned makers of Smith's Cup Defender Paints and Varnishes, is a large and unusual animated display of eight reproductions of successful defenders of the America's Cup. Electrically operated and beautifully illuminated, the eight handsome craft move across a panel six feet long and four feet high. The original drawings for the yachts were made by the marine artist, Robert F. Patterson, and an explanatory plaque on one side of the display gives complete specifications and interesting data on each yacht.

Herreshoff Bristol Green, a brand new anti-fouling racing paint, was introduced jointly the past season by the Herreshoff Manufac-

turing Co. and Edward Smith & Co. Its sponsors declare that a season's use on many craft has proven their claim that it is the only bottom paint known to combine the characteristics of racing bottom smoothness and cruising bottom protection against barnacles, grass and other marine growths. Drop in at Smith's booth and learn about this new paint.

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Another Dyer Dink

DYER Dinks, built by the Anchorage, of Providence, R. I., have earned an enviable reputation for speed and handiness. The newest boat is a 10-footer of 51 inches beam and with ample freeboard. She is from plans by Philip L. Rhodes, associated with Cox and Stevens. She is of lapstrake construction with full length Philippine mahogany planking over steam bent oak frames, fastened with copper rivets and burrs. Centerboard, rudder and skeg are of mahogany and are streamlined. The centerboard box, also of mahogany, is capped watertight and the position of the board is regulated by a bronze lever and ratchet. All thwarts are of mahogany, the forward and after ones being removable. The mast partners are riveted to the oak clamp so that shrouds are unnecessary. The hull, minus removable thwarts but including all brass hardware, weighs 140 pounds. Scantlings are the same as those of the regular Dyer Dink.

The sail is restricted to 66 square feet and the mast, yard and boom fit within the boat. The boat is designed to meet the strictest towing requirements and to carry five people and sail fast with two. This new Class D boat should be a welcome addition to the Frostbite fleet.

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Graphite Lubricants

ON THE third floor of the Palace is found the exhibit of the Joseph Dixon Crucible Company of Jersey City, N. J. Here is displayed a complete line of graphite and graphite lubricants particularly adapted to the marine field. These include outboard motor gear lubricants, Auto Marine Grease for water pumps, Microfyne Graphite and the Graph-Air Gun. An interesting feature of the display is a mechanical demonstration of the new Micronized Graphite, a natural graphite of the smallest processed particle size ever produced.

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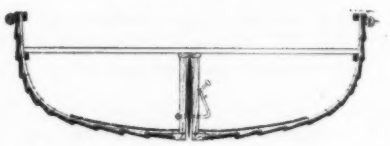
For Fire Extinguishing

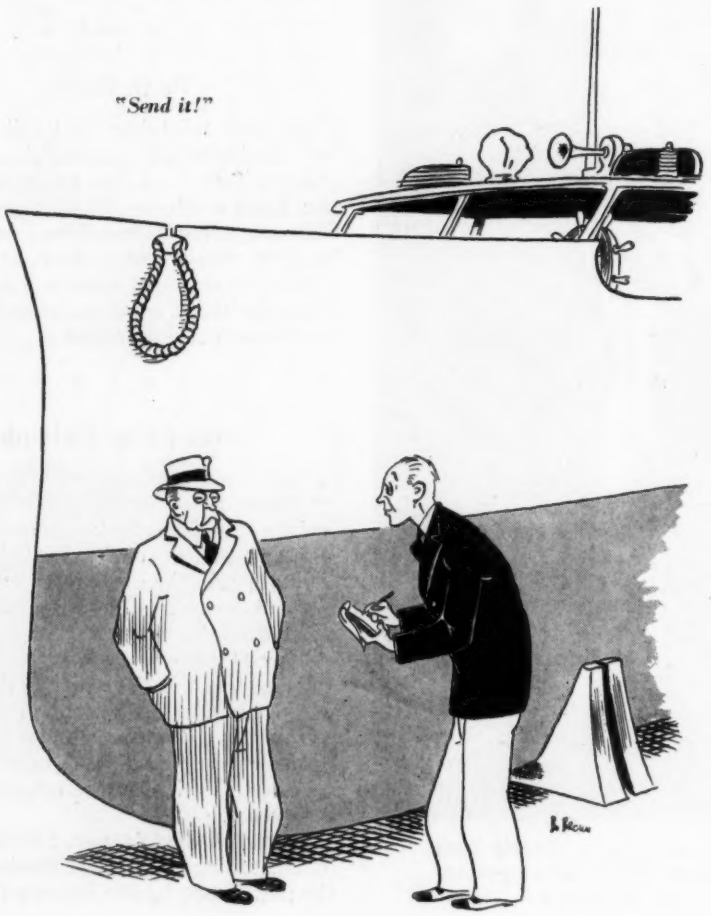
THE display of Walter Kidde & Company includes a circular tank in which a model motor yacht is running. At intervals, the boat is set afire and the blaze is immediately extinguished by Lux equipment, without any damage to the boat.

Another interesting exhibit is a complete Lux-O-Matic set-up showing how the heat of a fire operates to release the fire-extinguishing gas in sufficient quantities to kill the blaze in ten seconds or less. There is also a complete display of the full line of manual Lux systems for yachts of all sizes.

The portable extinguishers made by Walter Kidde & Co. are also being shown, including a number of improved models. These use pure water with a carbon dioxide cartridge which needs recharging only after use. When in action, it puts a high pressure on the water assuring long and uniform flow.

The new Dyer Frostbite "Dink" is 10 feet long, 51 inches beam and has 66 square feet of sail, and fits the new Class D. Designed by P. L. Rhodes





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Yacht China and Glassware

ONE of the high spots on the third floor has always been the attractive booth of Ovington's, with its gleaming glass and silver. This year the display is even better than ever, with the company's full line of china, glass and silver for yacht service. Here is found everything for the table, from novel cocktail sets to handsome after dinner coffee cups, to say nothing of intriguing novelties that take the eye of the discriminating yachtsman. There are complete dinner sets with the owner's club burgee and private signal in colors on every piece, silver of all kinds in the latest patterns, lamps and lampshades of appropriately nautical design, all of them not only up to the minute but distinguished by good taste.

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Lights for Boats

THE Kilborn-Sauer Company, of Fairfield, Conn., shows its complete line of lights, including streamlined running lights and the standard type, dome lights, porch lights, anchor lights and ten day lights. Searchlights of many sizes are displayed and a new model 12-inch searchlight with a waterproof enclosed gear control packed in grease.

What Our Readers Say

Fresh Water Slime Finish?

Editor, YACHTING:

NEARLY every yachtsman seems to have his own opinion about the best way to paint the bottom of a racing yacht. No doubt one reason for this is that no one paint or finish is best for all racing conditions. In any individual case, an intelligent choice of paint will be governed by such factors as the speed of marine growth in the local waters, the number of haulouts allowed, and the trouble and expense the boat owner is willing to go to.

A bottom paint is expected to do two things: (1) Keep the bottom as free from marine growths as possible, and (2) cut down surface friction to a minimum. It is relatively easy to see whether condition (1) is being fulfilled satisfactorily or not, but (2) is hard to determine positively. The only information available to yachtsmen about the effect of surface friction is given by the relative performance of racing boats with different kinds of bottom finishes. Since so many factors enter into a boat's performance in a race, it is probable that bottom finish is blamed or praised for results for which it is not responsible.

It occurred to me that some interesting information might be secured if tests were made on different finishes, eliminating as far as possible the other factors which confuse the result in actual races. The following method was used:

My racing boat was towed by a motor launch equipped with a tachometer, the tow rope being made fast to a spring scale on the stern of the launch. The throttle was adjusted to give various tachometer readings, and the corresponding scale readings were taken. This was done at four speeds between four and seven miles an hour, repeating with each finish. Precautions were taken to prevent other factors affecting the results. For example, the tests were made only in very still air, the live ballast in launch and yacht was kept constant in amount and position, a tow rope of exactly the same length was used each time, the tests were made in deep water, etc. Tests were made on the following finishes:

Clean Paint — This was a hard racing finish, applied at the beginning of July. Three coats were used, the first rubbed with steel wool, the second with pumice stone and oil, and the third with rotten stone and oil. This treatment gives as near a "piano finish" as I have ever seen. At the beginning of August the boat was hauled out and rubbed down with rotten stone and oil. During the racing season the bottom was cleaned off twice a week with a mop. The tests were made at the end of September, after the racing season was over. At this time the finish was very smooth and, when hauled out, it appeared to be in excellent condition.

Slime Finish — The clean paint was allowed to remain without cleaning until it developed a thin, uniform coat of slime. There were no trailing growths or barnacles, only enough growth to give a slimy sensation when touched. It is possible that the slime became saturated with oil and grease, because the waters of Upper St. Regis Lake, where the tests were made, are used by many motor boats.

Graphite — The boat was hauled out and a layer of graphite applied. This was done by simonizing the bottom and rubbing in the graphite. Unfortunately the graphite coating was somewhat uneven and a little came off in the course of the test. Hence it is probably safe to say that the graphite results are not representative of what can be expected from a really good coat of graphite.

The results are presented as percentages of the spring scale reading with clean paint which, for any given speed, will give the same speed using the indicated finish. In each case the average of the results at the four test speeds is shown. On this basis the criterion of merit is a low percentage:

Clean Paint..... 100 per cent
Slime Finish.....91.2 per cent
Graphite.....90.9 per cent

That slime is helpful does not seem to be generally recognized. So far as I know, Dr. Curry is the only authority who states that it is beneficial, but several writers advise cleaning all slime off immediately before each race. The graphite is only slightly better than the slime, but as explained above this result should not be taken as typical. However, since graphite is often forbidden by club rules, and its lasting qualities are poor, in many cases the slime finish may be the best available. It might be difficult to keep a slime finish in good condition throughout a racing season, as too much growth would no doubt prove harmful. Perhaps the best way would be to clean off the bottom a few days before each race, and allow a new coat of slime to be formed. The use of white bottom paint might help, by showing up the condition of the bottom more clearly.

JOHN B. TREVOR, JR.

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Sail Area in Relation to Age

Editor, YACHTING:

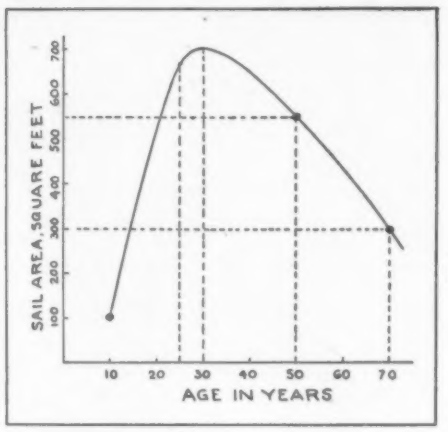
OVER the last few years there has been an apparent increase of interest in small sail boats of, say, 25 to 35 feet water line measurement. What I have reference to are those designed with more or less in the way of cruising accommodations.

This is probably the hardest size of boat to design, due to the fact that the human being is relatively large in comparison to the boat. Below 25 feet you have to build a tub, and above 35 feet the relative size of the human being decreases rapidly with an increase in length of the boat. I rather imagine that when a boat of this size is built it is generally a compromise between length, beam and price.

I now propose something to put up to your readers, and that is to plot curves of sail area per man per years of age. This can be done for one, two and three men. For a one man job I would plot a curve as shown.

Of course, the maximum would probably be set higher by some hell-busters who eat raw meat, and the left side might bulge a little. The two points on the right are taken from two average men who know how to sail.

The procedure now is to pick out the correct point on the curve and interpolate for personal characteristics, go to a designer you favor and ask him to put the easiest set of lines he can under this area. I would lean a little towards length and a little away from beam to get an easy hull. Then fill the inside



with as many bunks, gadgets, stoves, etc., as you want or can get in.

The rig is a matter of personal preference, but I am inclined to favor the cutter as it can be snugged down to staysail and trysail.

AMATEUR

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Another Englishman's View

Editor, YACHTING:

HAVING read your account of the Class J series as well as those in one other noted sailorman's journal, I feel inspired to write.

All honor to you — you manage to balance the scales and yet maintain your dignity, yet there is a lamentable want of uniformity in American ideas and ours in respect to sport generally. Consider — at all costs you *must* win fairly; we, on the other hand, are more concerned with the form of winning.

Mr. John Scott Hughes is not quite right in his comments in the November issue because he is prepared to jettison the orthodox, and go for syndicates. It seems to us all the time that the clear idea of sport is immolated on the altar of speed.

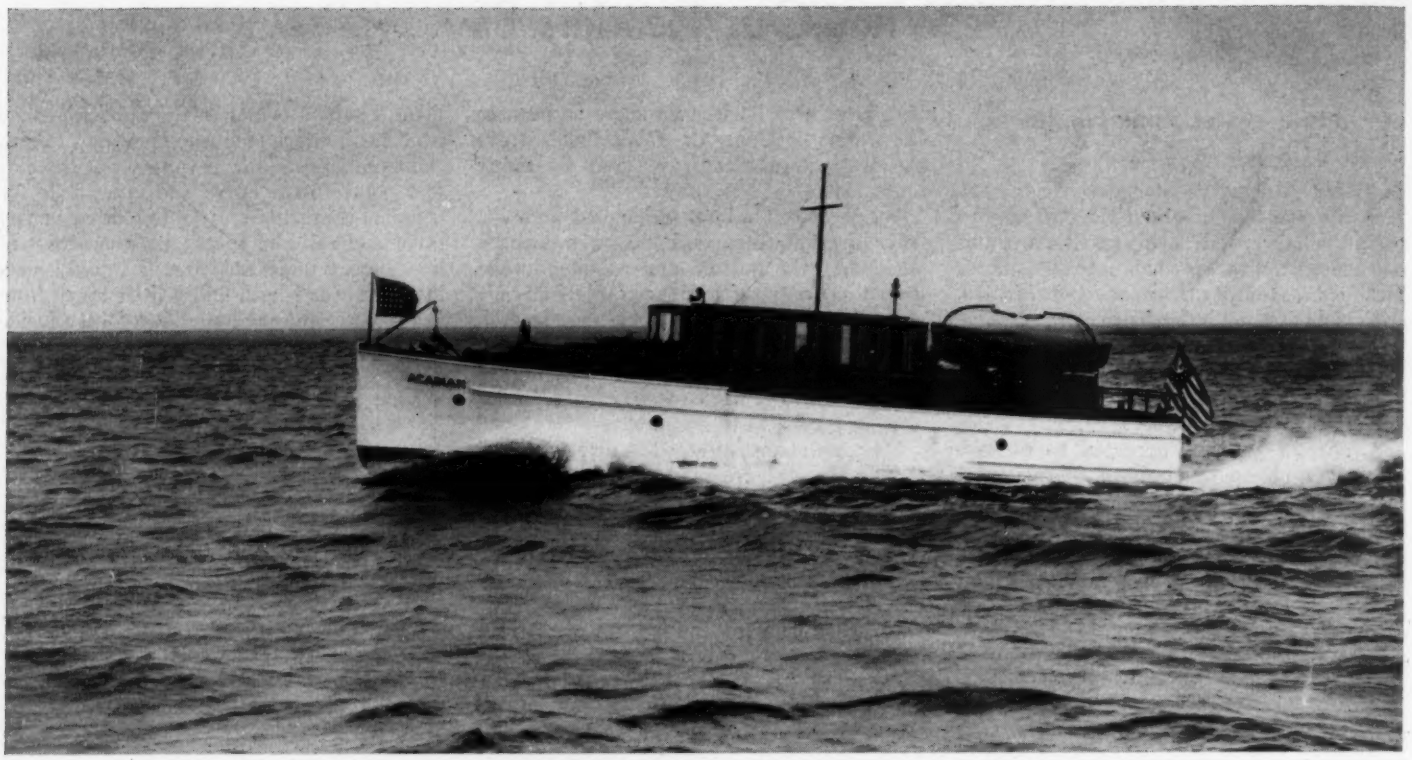
No one of us wants the longest purse to win, but the best boat handled in the best manner by the material available. Errors of judgment are good for the immortal soul, and an error corrected to give a win when a loss seems inevitable is to us a greater achievement than a company of infallible sailormen blowing out a kite like Grenadiers on the parade square.

However, your journals have shown us what are good manners on paper in reporting this series — to our shame and sorrow.

Of course we shall come over again for some more. One day the America's Cup will remain with us.

Is there any point at which we can meet?

D. A. HOOPER
Ranelagh Sailing Club



"Acadian" is one of the 46-footers built by the Burger Boat Co. as a standardized boat

Of Interest to the Skipper

The New York City Sales Tax

YACHTSMEN who may be considering the purchase or sale of a boat will do well to estimate the effect of the New York City sales tax on the transaction. They will doubtless find the letter recently sent out by Sparkman & Stephens, Inc., of New York, of much interest. The letter follows:

"We are advised by counsel that this tax applies when a yacht located in New York City is sold, provided the transaction does not result in Interstate Commerce or in delivery outside of the city limits.

"For instance, if a yacht located at City Island should be sold to a buyer in Massachusetts and the contract of sale calls for delivery of the yacht in Massachusetts, the sale is one in Interstate Commerce and not subject to the New York City Sales Tax. If, however, a Massachusetts buyer should take delivery of a yacht at City Island, the transaction would not be one in Interstate Commerce and would be subject to taxation.

"Under a recent interpretation of this law by the Comptroller of the City of New York, it would appear that a yacht sold in New York City to a non-resident would not be subject to this tax if delivery is made outside of the city limits, even though in the State of New York.

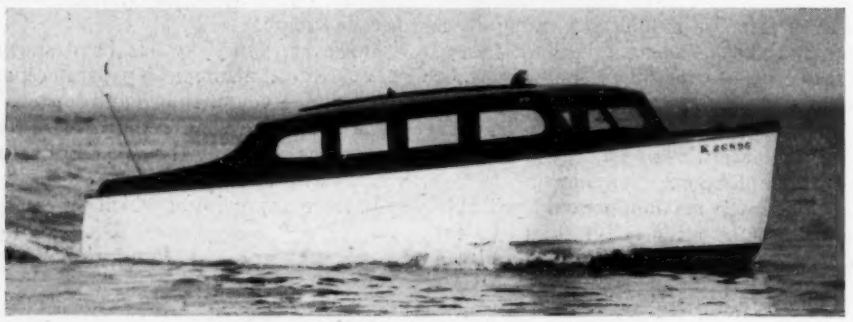
"The law provides that where this tax is payable, it shall be added to the purchase price by the seller-owner, and he shall remit the tax to the Comptroller of the City of New York."

\+ + +

The Owens Stock Cruiser

Built as a standardized boat by the Owens Yacht Company, of Annapolis, Md., this sedan cruiser is 28 feet long and 9 feet beam. The arrangement plan shows seats forward, one for the helmsman and one for a guest. The cabin sleeps four, on lowers and folding upper berths. Aft, is a galley and an enclosed toilet room. The cockpit is roomy and has a seat and lazyback aft. The raking house front, rounded cabin roof and curved cockpit coaming give the boat an individual appearance. The height and dip of this coaming may be varied to suit the owner's taste.

The engine, located under the bridge deck with flush hatch over it, is a Gray Six-51 which drives the boat at a 15-mile pace.



The Owens 28-foot cruiser makes 15 m.p.h. with a Gray 6-51

Burger Boats

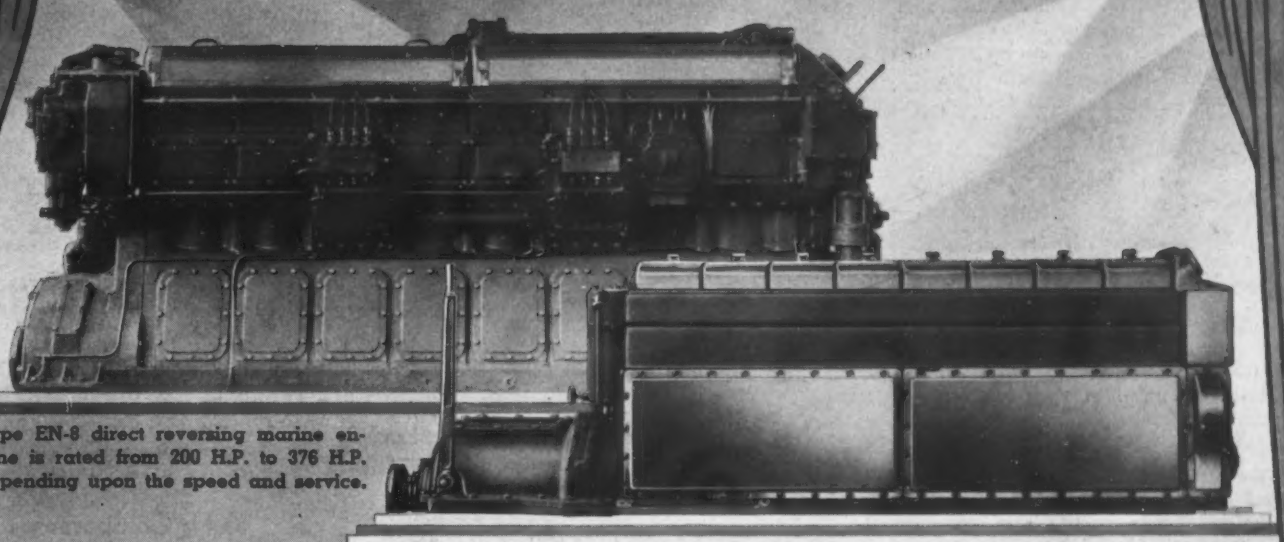
A new one-design class boat being turned out by the Burger Boat Company, of Manitowoc, Wis., is from the board of Samuel S. Crocker, naval architect of Boston, Mass. She is a duplicate of a successful class that has been built and raced in the East and her principal dimensions are as follows: length over all, 22′ 9″; length on water line, 18′ 0″; beam, extreme, 7′ 0″ and draft, 2′ 6″. These boats are intended for racing, afternoon sailing, and short cruises. They are trim little craft with a modern sloop rig.

Another boat in the Burger fleet is an auxiliary designed by William Atkin. She is 33′ length over all, 28′ water line, 10′ beam and 4′ 6″ draft. She is cutter-rigged and should be a comfortable and seaworthy boat that will show a good turn of speed. Her accommodations consist of a stateroom forward, main cabin, galley and toilet room. Plenty of stowage places have been laid out.

The Burger 36-foot standard cruiser is practically last year's 34-footer with up-to-date improvements. More power has been installed in the new 36-footers, the engine now being a Chrysler Crown with built-in reduction gear.

The 46-footer is the regular standard boat with a number of her details completely modernized. She is now a twin screw boat, a pair of Chrysler Crown reduction gear engines being installed in place of the single motor used in the past. The purchaser may, however, select any make and size of engine he desires. The boat has a deckhouse amidships, with the power plant below it. Forward is a double stateroom for the owner, with toilet room adjoining, and quarters for a paid hand. Aft is the galley and another toilet room and the main cabin with berths for four. A roomy cockpit is abaft the house.

ANNOUNCING
COOPER-BESSEMER'S NEW LINE OF DIESEL ENGINES



Type EN-8 direct reversing marine engine is rated from 200 H.P. to 376 H.P. depending upon the speed and service.

Type BN-8 with marine reversing gear is rated 100 to 160 H.P. depending upon the speed and service.

RESEARCH and experiment on the new N line of Cooper-Bessemer Diesels started more than three years ago. Some of the sizes have now been in service several months. The two smaller sizes as six-cylinder units will be exhibited at the Motor Boat Show in New York, January 18 to January 26. Three new engineering developments are common to the entire line.

1st. Steel through bolts connect the cylinder heads to the bases, putting the cylinder block and centerframe in compression.

2nd. Cylinder liners are suspended from cylinder heads instead of being pinched between heads and cylinder block.

3rd. The patented wrist pin construction practically doubles the effective wrist pin bearing areas.

On all but the smallest size the patented atmospheric relief common rail type injection system gives cleaner combustion and greater maneuverability. Get in touch with the nearest branch office for detailed information.

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District Offices:
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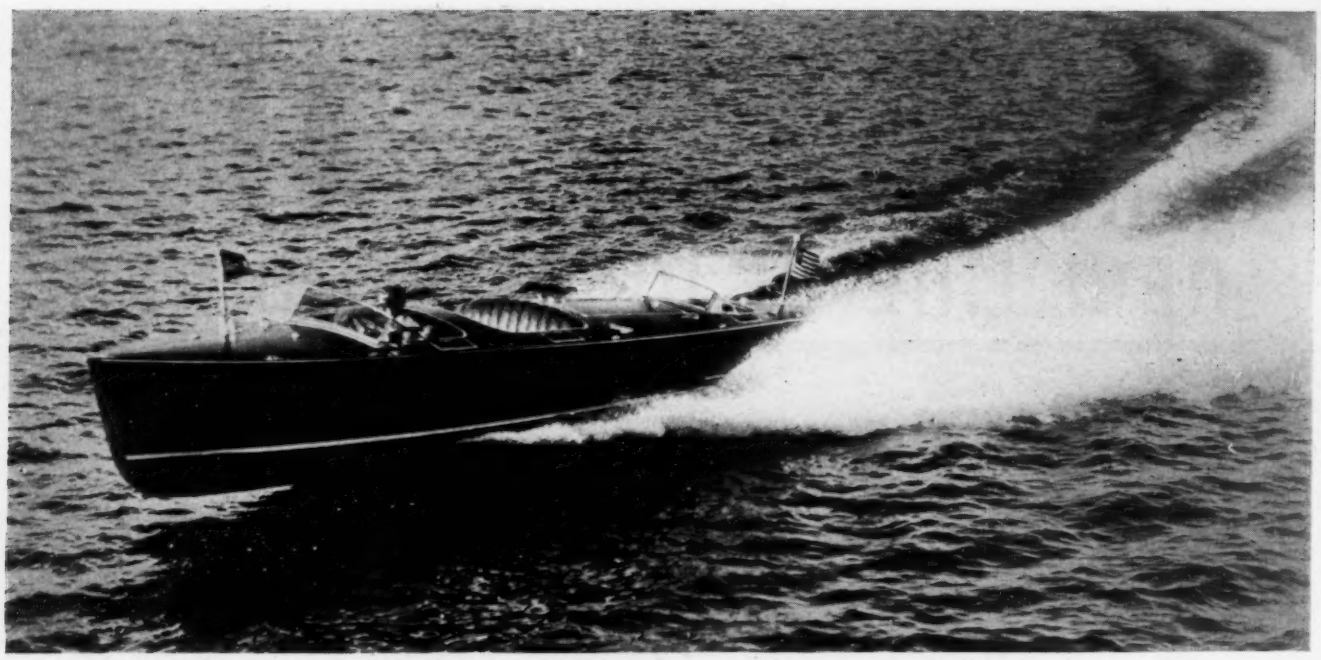
Pacific Marine Supply Company, Seattle, Wash.
640 East 61st St., Los Angeles, Calif.

PLANTS: MT. VERNON, OHIO. GROVE CITY, PENNSYLVANIA



Harold F. Pitcairn, of Willow Grove, Pa., owns this 28-foot Gar Wood runabout. A Scripps Model 302 V-12 high speed engine, developing 300 hp. at 2400 r.p.m., drives her 47 m.p.h.

The quarters below are light and well ventilated and ample stowage space has been provided.

The Burger Boat Company has been in business for more than 65 years and has built boats of all kinds — sailing yachts, auxiliaries, motor yachts and commercial boats.

\+ + +

Moves to Larger Quarters

Oluf Mikkelsen, distributor for Outboard Motors Corporation, has moved into new and larger quarters. Since the first of the year his address has been 393 Fourth Avenue, New York. The new location provides almost three times as much floor space as there was in the store on East 23rd Street. In addition, the new quarters have a street frontage of forty feet with a generous window space for displaying motors, boats and accessories. The building is modern and the new location should offer generally improved service to old and new customers.

Mr. Mikkelsen, beginning last year, has distributed Elto and Evinrude engines, with other products of the Outboard Motors Corporation. Before that, he handled Evinrude motors as his one outboard line for twenty-three years. He distributes in practically all of New York State, New Jersey, and the eastern half of Pennsylvania.

\+ + +

An Interesting Article

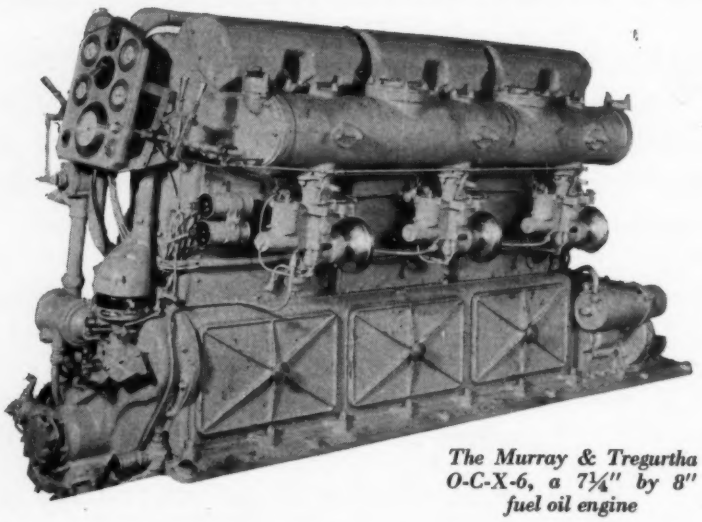
In the March issue of YACHTING will appear the first instalment of an article by Henry B. Nevins on the construction of yachts and power boats. Special emphasis is laid on the selection of the proper woods and metals, on methods of fastening the various members of the yacht's structure, and on the prevention of corrosion and decay. Mr. Nevins is too well known to our readers to need any introduction and his article is one of great value and interest.

The Newest Murray & Tregurtha

Model O-C-X-6, a 6-cylinder fuel oil engine of 7¼ inches bore and 8 inches stroke, has been announced by the manufacturers, Murray & Tregurtha, Inc., of North Quincy, Mass. This model was designed particularly for medium or heavy duty service in boats of the cruiser type, and a number of them have been installed in boats belonging to the Coast Guard and also to the Bureau of Lighthouses. It may be furnished either for direct drive or for driving through a reduction gear. With the proper gear it can, it is reported, turn a propeller up to six feet in diameter.

The engine follows the general construction of the fuel oil engines which Murray & Tregurtha have been building for the last four years, except that in this new model the cylinder and the cylinder head are in one casting, and the valves are located in a horizontal position. The valves are easily removable through side plates in the water-jacketed combustion chamber. This type of cylinder construction permits a more efficient type of combustion chamber, the builders state, and reduces by about one-third the time required in inspecting and grinding valves.

The engine develops 135 hp. at 700 r.p.m. and 170 hp. at 1100 revolutions. It is quiet, smooth running and economical of fuel.



The Murray & Tregurtha O-C-X-6, a 7¼" by 8" fuel oil engine

\+ + +

Kuhls Compositions

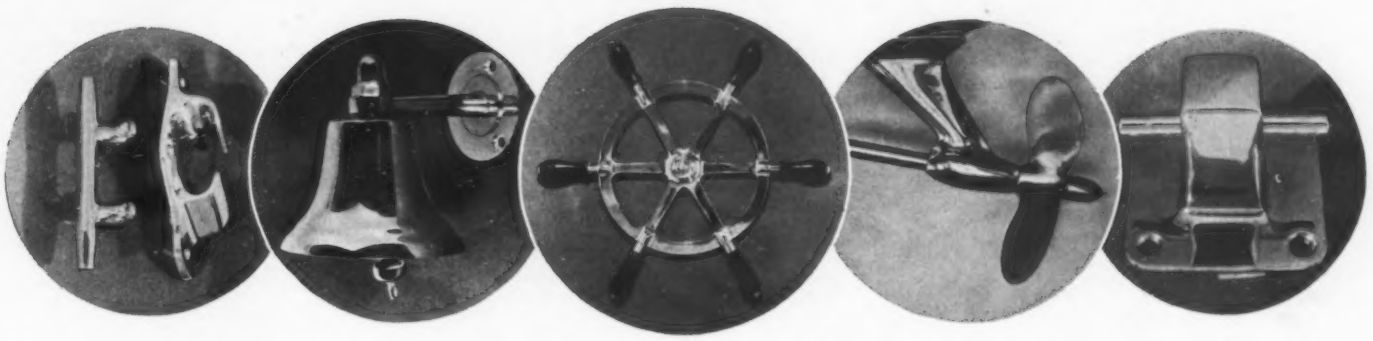
For the past 46 years H. B. Fred Kuhls, of Brooklyn, New York, has manufactured compositions for boatbuilders. Among them are No. 1 composition, a seam filler for the deck; No. 2, a seam filler for the hull, and No. 3, a waterproof liquid glue used for laying and waterproofing canvas, for making double planking tight and for use under seam battens. Another product is elastic trowel cement, for covering the heads of flush rivets and making a smooth surface on a steel hull or for filling dents and cracks on a wooden hull. This cement is used either above the water line or below it. Elastic seam paint is used as a priming coat for all seams.

Kuhls' compositions never dry out, harden or become brittle but remain elastic, giving when they should give, holding when they should hold. They have been in use for nearly half a century and have earned an enviable reputation.

Sea Steel ©

SUPER STAINLESS STEEL

MARINE FITTINGS



Sea Steel is a non-magnetic solid chrome-nickel alloy more than twice as strong as brass or bronze — stronger than any other metal adaptable for marine equipment — the most perfect material yet devised for a multitude of yacht uses.

Sea Steel standard fittings are designed by George Lawley & Son Corporation and finished to the specifications of these master yacht builders. Sea Steel products are cast, forged, or fabricated. Any item and special designs can be supplied.

ECONOMICAL — NO POLISHING

Sea Steel cleans like glass. Sea Steel is washed with Bon Ami and water. There is no polishing cost on Sea Steel. Its platinum-like beauty and unusual strength are permanent . . . there is no coating or plating to chip or wear off. The surface goes all the way through. You are paying for Sea Steel in every can of polish and every pound of "elbow grease" that goes on your fittings. You are paying for Sea Steel, why not have it? If you have "messed around" with chrome-plating you know it costs three times as much per year of service as the cost of Sea Steel. Because Sea Steel remains clear and bright it causes no discoloration to the boat itself.

SMALLER, LIGHTER FITTINGS

Sea Steel's extra strength results in smaller and lighter fittings wherever design permits. A 4-inch Sea Steel cleat fastened with two ¼-inch Sea Steel bolts will break a 1-inch first quality line with strength to spare!

Light Sea Steel stanchions do not bend in service. You could lift a ton on a small Sea Steel boat hook.

Don't you remember all those bent screws with burred slots and broken heads you've thrown away? Sea Steel marine screws are stronger than steel machine screws. For saving weight and reducing windage aloft — Sea Steel is ideal used in blocks, standing rigging, turn buckles, sheaves, mast tracks and slides.

DESIGNERS — BUILDERS

The use of Sea Steel makes possible substantial savings in the weight of all soft metal parts for which it is substituted. Better physical properties, longer life, no corrosion and no polishing are additional advantages.

In sailing craft particularly the light weight of Sea Steel fittings aloft requires less compensating ballast. Its greater strength makes possible smaller fittings wherever it is used, markedly increasing the aerodynamic efficiency of a yacht rig.

ORNAMENTAL AND DECORATIVE USES

Grilles, bow ornaments, lighting fixtures, stack insignia, name plates are ideal in Sea Steel. Also available with designs in "Kloizenay" fused glass in colors.

The flawless and perpetual brilliance of this metal makes it especially suited for decorative purposes afloat or ashore.

Designs developed for any personal, industrial or commercial use.

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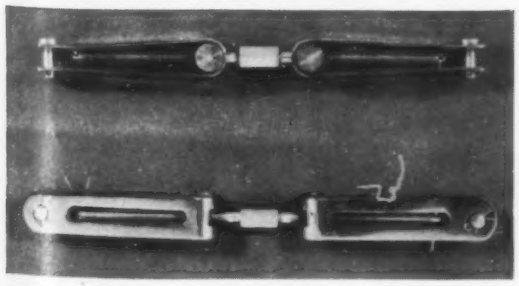

Sea Steel turnbuckles are more than twice as strong as bronze turnbuckles of the same thread diameter. A ¼-inch Sea Steel turnbuckle is stronger and 30% lighter than a ⅜" bronze turnbuckle. Larger sizes in ratio.

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Bottom: New 25-ft. Streamline Cruiser with sleeping accommodations for 4. Price $1590 complete.

Left—Chris-Craft offers smart new double cockpit forward Runabout models in 16, 18 and 19-foot lengths, with the most advanced styling in the motor boat industry. Priced from $895.

The new custom 22-foot Chris-Craft LEVEL RIDING Runabout is a distinguished craft — magnificently appointed, a thoroughbred in every way. It offers three options of power (92, 125 and 150 h. p.) with a range of speeds to 40 m.p.h. Priced from $1995.

Chris-Craft offers new and improved Utility craft in 16, 18 and 21-foot lengths. Priced from $595 to $1495.

Over all the years, no boat builder has ever been able to approach the Chris-Craft record for the manufacture and sale of motor boats. Substantial gains in Chris-Craft leadership during the past year are further evidence that the public recognizes Chris-Craft experience, quality, workmanship and value. The striking new 1935 Chris-Craft fleet is proof of our determination to continue to merit public confidence with even finer boats and greater values. We cordially invite you to inspect these new LEVEL RIDING Runabouts, Utility models and Streamline Cruisers at the nearest Chris-Craft dealer, or, write direct to the factory for a complete color catalog.

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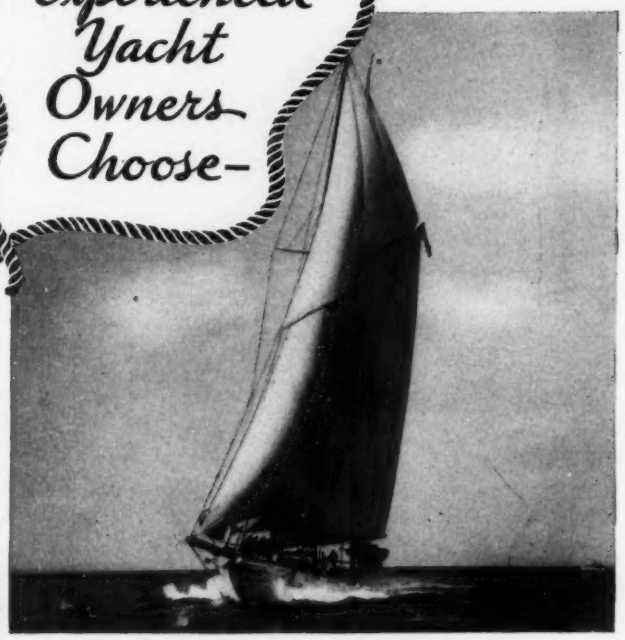

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As the Atlantic Mutual recognizes brokers, it will be in order to send this coupon through your broker.

Some Cruises and Harbors in the Bahamas

(*Continued from page 61*)

to the south and west of the southern end of Norman's Cay. In approaching from the north, pass about two miles west of the south end of the cay and head east; an east course then takes you about one mile south of the point. Continue on this easterly course until water two to three fathoms deep is reached and then enter the harbor on a northerly course, passing between the southern end of Norman's Cay and a small cay a quarter mile to the east. The best water is close to the westerly side of this small cay. After passing the bar extending from abreast this cay to Norman's Cay, the channel swings sharply to the northwest for about 200 yards and then back to north, according to the color of the water. Anchor in about two fathoms one-third mile to the north of a line between the small cay at the entrance, previously mentioned, and the nearest point on Norman's Cay. This is a splendid anchorage protected in all winds.

COMPASS CAY. From Norman's Cay we went south, passing close to the west of Elbow Cay, on which a light is located, then to the west of the shoals off Wide Opening Cut to Conch Cut. Here the chart is misleading, the cay forming the southeast side of Conch Cut being called Compass Cay.

This reminds me that this name, as well as those of many of the cays in this group, is omitted from the charts but will be found in a book of *Maps of the Bahama Islands* with statistics and index "Published by Authority" and obtainable at the stationer's store on East Street, in Nassau. This publication will be found useful by anyone cruising among the Bahamas.

There is a small cay, rather high and conspicuous, but not indicated on the chart, which lies roughly three-fourths of a mile southwest of the north point of Compass Cay. Leaving this small cay 100 yards to the south, continue on a northeasterly course until you reach the channel along the southwest side of Compass Cay. There proceed in a S to SW direction, following the channel off the westerly shore of Compass Cay for about one and one-half miles, finally one-eighth mile offshore, crossing a bar having about four feet at low water which extends for a long distance southwest of Compass Cay. After crossing the bar, the best water is close to Compass Cay. Following the shore, swing to the eastward up a sound between Compass Cay and Pipe Cay, that is, just to the southeast of Compass Cay. After about one mile you will see an opening to the north, about 100 feet wide, with two fathoms of water. Pass through this opening into a round basin about 400 feet in diameter with 30 feet of water in the middle — a perfect and fascinating anchorage. There is an excellent well of fresh water on Compass Cay about 1000 feet outside the entrance of the basin where we took on about 175 gallons of water. This was softer than Nassau water.

On leaving this anchorage we retraced our course until we reached the bar, where we arrived at low water. We grounded and waited for half an hour for the tide to let us over. After crossing, we followed a channel along the northwest edge of the bar and finally reached deep water (two fathoms) on the "Bank."

LITTLE FARMERS' CAY. We then passed close to the west of Harvey's Cay, which has a light on it, and headed for Little Farmers' Cay, another excellent anchorage with an interesting settlement. The residents are said to be descendants of the original Indians but are now, of course, mixed with considerable negro blood. A dance was arranged for our entertainment, the Jamaica rum necessary for its success being provided by us. Vegetables are obtainable and there is a well on Great Guana Cay across the harbor, which contains usable although slightly brackish water. Of course, all local water must be well boiled before being used for drinking. We use local water only for washing and cooking and have a separate tank for drinking water.

Opposite the village there is a cut through which the tide runs very strongly into Exuma Sound. This cut separates Great Guana Cay from Big Farmers' Cay. It is not recommended. A much better opening, called Galliot Cut, is at the southern end of Farmers' Cay. To enter this from the west, pass to the north of Galliot's Island. The mail boat running between Nassau and Georgetown uses this cut. It is described in the *West Indies Pilot*.

You can enter the anchorage at Little Farmers' Cay by going around either end of the cay, but to cross the bar extending across this harbor opposite the village you must go quite close to the cut at the northeastern end of the bar. The best anchorage is

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INTERNATIONAL YACHT BARE PLATE PRIMER NO. 45 — For steel bottoms after a scaling job or on new plates. Supplies the correct priming for adhesion of subsequent coatings of ANTICORROSIVE and ANTIFOULING.

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INTERNATIONAL YACHT WHITES — Finest oil paints and enamels. All are gas and fume proof and made to resist all the conditions peculiar to marine use. Designed to give lasting decorative finishes.

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Yacht Flat White, Ext. No. 38
Yacht Flat White, Int. No. 388
Yacht White Enamel, Ext. No. 87
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Yacht Engine Room
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INTERNATIONAL YACHT BLACKS — Maintain a due chemical balance between pigments, oils, driers and other ingredients for the correction of blistering and other failures, usually caused by the natural heat absorption of black. Permanent high gloss o.: No. 39.

Yacht Gloss Black No. 39 **Yacht Flat Black No. 399**

INTERNATIONAL YACHT VARNISHES — Every detail of the extreme hard usage on any marine object has been thoroughly considered in the manufacture of all INTERNATIONAL VARNISHES.

Yacht Super Spar Varnish No. 90 (100% Bakelite)
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Ivory No. 250 **Old Rose No. 257** **White No. 263**
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INTERNATIONAL YACHT TROWEL CEMENT — For facing up topsides and decks of steel, wood and canvas. Dries with a tough, flexible and highly adhesive texture. 25 lbs. to the gallon.

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INTERNATIONAL YACHT SMOKESTACK PAINT — Pigments and vehicles selected with due regard for their ultimate hard usage. For application to single or double stacks.

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INTERNATIONAL PAINT & VARNISH REMOVER NO. 200 — Will penetrate and soften several coats of old PAINT, VARNISH, ENAMELS, SHELLAC, WAX or GUMS, and remain wet long enough to exclude haste. Creamy.

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abreast or slightly to the north of the village, the location depending on the draft of the boat.

The entrance at the northern end of Little Farmers' Cay is comparatively shallow and should be attempted for the first time only when light conditions are favorable. There is about four and one-half feet at low water in the shallowest places in the channel.

In proceeding south to Georgetown, Great Exuma, there are several alternatives. You can go out into deep water through Galliot Cut, which is the quickest way but requires a run of 32 miles in the deep and frequently rough waters of Exuma Sound. Another way is through very shallow waters just inside the Line Cays all the way to Rolleville. I have not yet explored this route. Or, you can go west of the Brigantine Cays and just north of West and East Barracuda Rocks, then through Pudding Cut around the north end of Barra Terre Island. With draft of less than five feet, this is an easy route to follow. Long distances are covered where the depth of the water is only about six feet at low tide, mostly with white sand bottom. Through Pudding Cut and around the north end of Barra Terre, you will find two to three fathoms in an easily followed channel. After passing the northern extremity of Barra Terre, head about east, passing just south of two cays. On Barra Terre, near the northern point, is the settlement of Barra Terre, but water in its little harbor is too shallow even for a boat of 4-foot draft. The deepest water follows close to the easterly shore of Barra Terre.

From Barra Terre, the inside route to Rolleville should not be attempted at low water. According to local fishermen, it is not difficult at half tide, or better, for boats of four to five feet draft. We did not try it but went out into Exuma Sound through Boisey Cut, about N by E from the northwest point of Hog Island. The cut has a strong current but is simple to navigate, with two to three fathoms, and no dangers in the center, although there is a shallow ledge extending out a short distance from the northern side. This side is marked by a conspicuous triangular hill with a steep precipice on the side toward Exuma Sound.

From Boisey Cut you have a 15-mile outside run to Georgetown Harbor, the entrance to which is plainly shown by Chart H. O. 340 and described in the *West Indies Pilot*. The best anchorage for small boats is close to the village of Georgetown, in Kid Cove, S½W from the beacon on Stocking Island.

Georgetown, the government seat of the Exuma Cays, is well worth visiting. Vegetables and fruits, lamb, eggs, chickens and canned goods may be obtained there. The roads are fairly good and interesting trips may be made all over the island by automobile.

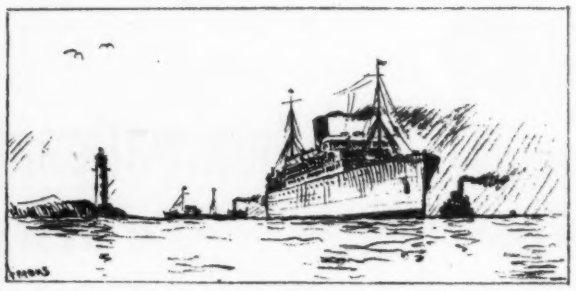
Georgetown Harbor may also be reached by a fourth, though longer, route without passing outside. Instead of going through Pudding Cut, after passing East Barracuda Rock, head about SSE for Duck Cay, sixteen miles distant, leaving it to the east.

Two miles farther, Cokely Cay has a good-sized pond shown on Chart 26d which is said to be a fine place for duck shooting during the winter months.

From Cokely Cay, follow along the edge of the shallow water to the east. Local fishermen tell me that there is a channel through Green Turtle Cut up to The Bluff on Great Exuma through which boats drawing eight or ten feet may pass at high water. The landing place at The Bluff is connected with Georgetown by a road.

Continue for about nine miles east of Green Turtle Cut and south of the one-fathom curve, as shown on Chart 26d, to an unnamed cay about S by E from Rolle Town and past the white sand hill which is noted on the chart. Then, passing between this cay and the larger cay to the east, you come to the creek called the Ferry, which separates Great Exuma Island from Little Exuma, through which boats of five feet draft can be taken at high water and thence into Georgetown harbor. In making this passage from the Banks to Georgetown harbor for the first time, it would be wise to get a local fisherman to act as pilot. As yet, I have not explored this route.

THE END



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Built to the most exacting standards, it would be almost impossible to match its luxury at anything like its price. And, of course, the proved performance of this a.c.f. "68" leaves nothing to chance—permits no possibility of disappointment. For the owner who wishes to entertain somewhat elaborately, there is provision for a crew of four, a sumptuous dining saloon in mahogany and brocade, and a galley adequate to the proper preparation and service of formal meals. For the man who gets his keenest pleasure in the feel of the boat under him, in the sense of its response to his every will, there is an ample bridge deck where is located the helmsman's station, with its charts, instruments, and the controls of a pair of 175 horsepower Hall-Scott engines. The speed is a full seventeen miles an hour.

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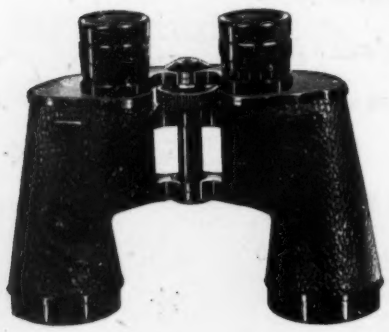

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BAUSCH & LOMB BINOCULARS

Speed Boat Development in Europe

(*Continued from page 75*)

latter, power is lost and the transmission is heavier and more expensive. But with the B.P.M. system, the motor can be mounted at a comparatively steep angle abaft the step, the drive shaft can be quite short and the propeller can operate really effectively.

It will be seen from the illustration that the whole drive is encased in a neat streamlined casing and the shaft angle is only 14°. The propeller is located abaft the after plane and is provided with a cavitation plate. The rudder is offset to port and the rudder post is well clear of the water.

The boat illustrated is *Sans Atout*, A. Valtolina's 1½-litre racer, which at the moment holds the world's 1½-litre mile record at 66.91 m.p.h. The last time America held this record was in 1929 when Ralph Snoddy attained an average speed of 52.55 m.p.h., at Balboa, with *Miss Rioco*. There is nothing very special about *Sans Atout's* underbody, construction being on the lapped plank system found in some outboard hulls. The 4-cylinder supercharged B.P.M. motor is said to develop but 110 hp., a figure far below that of *Miss Rioco's* straight-eight Miller unit.

So it would appear that there is something to be said for this new drive!

VITESSE

"Bimini, Sweet Bimini!"

(*Continued from page 49*)

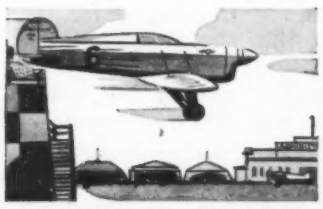
"In 1513, Ponce de Leon, Governor of Porto Rico and shipmate of Columbus on his second voyage, obtained a royal grant to discover and colonize the Island of Bimini where, it was asserted in Indian tradition, there flowed a magical fountain, the waters of which had the miraculous power of restoring old men to youth."

Fountain, or whatever else its magic might be, the island undoubtedly exerts a peculiar fascination on all who have been there. Situated about 55 miles due east of Miami, directly across the Gulf Stream, it is within comfortable reach of the mainland by boat or plane. Until the advent of prohibition in the United States and the resultant gold rush to the islands, the natives did practically no work except to sponge or fish, and, as nature is lavish, they did no more than they found absolutely necessary. With the abolition of prohibition, the natives remain as before, happy-go-lucky, courteous, kindly and occasionally voicing an Oxonian accent that is little short of startling in its effect. One of their quaint night-life customs is that of drifting in row boats from yacht to yacht, serenading the visitors and doing it remarkably well. Those occasions, with the long phosphorescent trails in the wakes of the boats, the musical effects, vocal and instrumental, the silhouette of palms against a blue-black velvety sky, are something to be remembered.

The harbor, though affording excellent anchorage, is marred by a threatening bar at its entrance, poorly marked. Such charts of the Bahamas as I have seen leave much to be desired and, for that reason, the visiting yachtsman is advised to procure the services of a guide, either in Miami or Bimini. The easy assurance of these men while piloting, especially in the case of the native Bahamians, is positively uncanny, even to one familiar with Florida reefs. They think nothing of winding around flats and reefs for distances of fifty to one hundred miles, with apparently nothing to assist them in the way of navigational aids, only to make their landfalls "right on the nose."

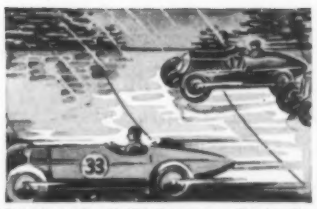
I dislike to make prophecies but, as a finale, I should like to venture a couple of guesses. One (to paraphrase Alexander Woollcott) is that, ere the strawberries bloom again, every world record for big game fish will have been broken and, furthermore, that the scene of action will be laid in the vicinity of Bimini. The other is that long, long after the strawberries have bloomed again — and whether or not he is interested in fishing — many a returned yachtsman will be humming the lilting tune of those Bahama serenaders, "Bimini, Sweet Bimini!"

Differences of opinion on almost every subject under the sun—but only one world-opinion about spark plugs. Entering their 25th year, Champion Spark Plugs outsell all others all around the world.



CLEVELAND — *Lee Miles, piloting a Champion equipped M & A Special, turned in the outstanding performance of the National Air Races by winning six events, placing up with the leaders in three others and capturing the L. W. Greve Trophy. Convincing proof that champions use Champions.*

FRANCE—*A. Varzi used Champions in his Alfa-Romeo to win the Grand Prix of Nice, a thrilling race through the streets, demanding maximum engine performance and unusual driving skill. P. Etancelin in a Maserati was second and Count Trossi was third. All used Champions.*



ENGLAND—*F. W. Dixon won England's premier racing event, the Brooklands 500 Mile Race, in a heavy downpour that called for superb driving and the highest engine performance and stamina. His Riley was Champion equipped, as was the Riley that E. McClure and A. Von der Becke drove to second place.*

PHILADELPHIA—*In a year filled with record breaking outboard events practically every major race was won with Champion Spark Plugs. For example, in the N. O. A. championships, Champions won every race in all classes and divisions, setting four new world's records.*

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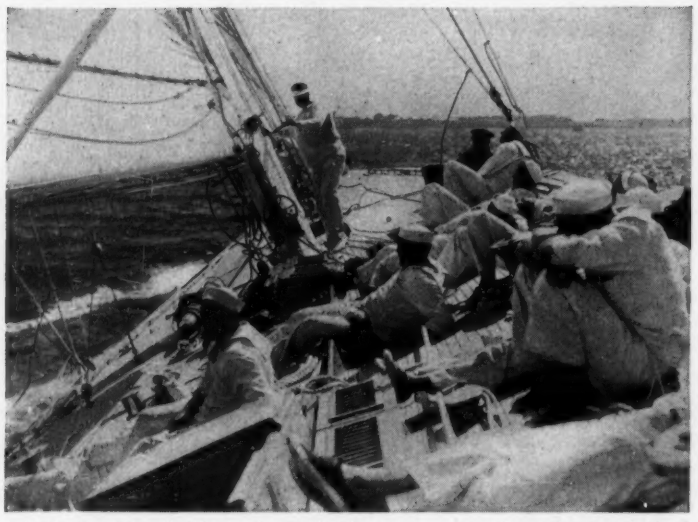

"Rainbow"—protected with several types of Bakelite resin paints and varnishes (Levick photo)

YACHTSMEN and motor boat owners who have used paint and varnish based on Bakelite Synthetic Resin have found that the rich gloss and fine appearance of their craft remain intact much longer than with other types of finishes. In many cases boats have gone through the entire season without requiring repainting. The durability of Bakelite Resin finishes affords protection that means real saving in maintenance costs, and freedom from mid-season refinishing problems.

When based on Bakelite Resins, paints, varnishes and enamels for topsides, decks, cabins, masts and spars are unusually tough, flexible, resistant to salt and polluted water, and to sunlight and weathering. Tests on hundreds of private boats, commercial ships and in tidewater test stations have proved the retention of these properties after months of service.

For all-season integrity of finish specify Bakelite Resin finishes. Leading marine paint manufacturers now supply them. Look for these words on the can: "Made with Bakelite Resin". Write for copy of booklet 20F, "Bakelite Synthetic Resins", which provides many interesting facts on paint and varnish durability.

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SYNTHETIC RESINS

"Hey, Sailor, What D'You Call It?"

(*Continued from page 67*)

Efficiency. Mr. Foster claims greater efficiency for this rig than for its parent. Naturally, I have no way of judging this. The sails set beautifully. The main does not backwind the staysail when closehauled as readily as it does on the conventional rig of my acquaintance. In handicap racing, the boat does well — so well that it would be unfair to blame the rig because she does not always win. I am not a racing man but I delight in a smart boat.

Handiness. The rig is as handy as a spare shackle. The staysail halliard leads over a sheave in the masthead so that all halliards are on pins forward. The sails are purposely cut without battens. They drop when let go and stow with amazing ease. Before the wind, the staysail boom hangs down in rather an odd position but the sail remains asleep in light airs and will not jibe readily. An enthusiastic friend, watching it at work one day, exclaimed: "Why, it's the best sail on the ship!"

Finally, she is a grand success, no matter what you call her. Strains aloft are no more than in a cutter with sails of similar area. Maybe that's what she is — a cutter with her staysail aft. I have failed to discover any disadvantages inherent in the rig. Naturally, there are things which need changing for better results. For example, I found it hard to keep the luff of the staysail taut with the long, springy manila halliard that I used. This seems necessary for the proper setting of the sail. Next year I plan to substitute a stainless steel standing part with a manila whip spliced into the end.

One gets accustomed to the appearance of the rig in remarkably little time. It has a jauntiness and cockiness all its own. From a distance, the sail spread is nearly an equilateral triangle, which gives it a compact, powerful look.

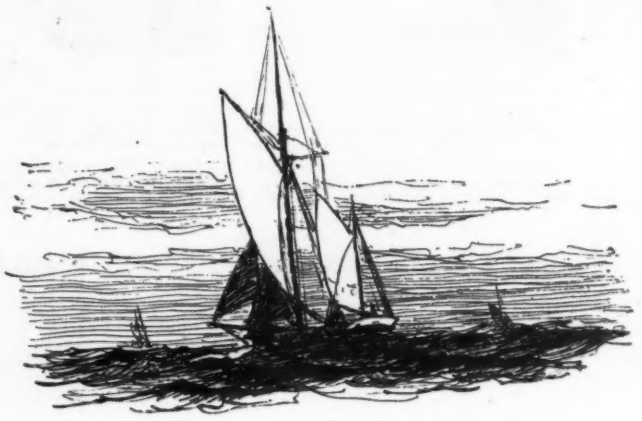
Come aboard, mates! Take her helm in a blow and realize that a new rig has been born.

Discovering Islands

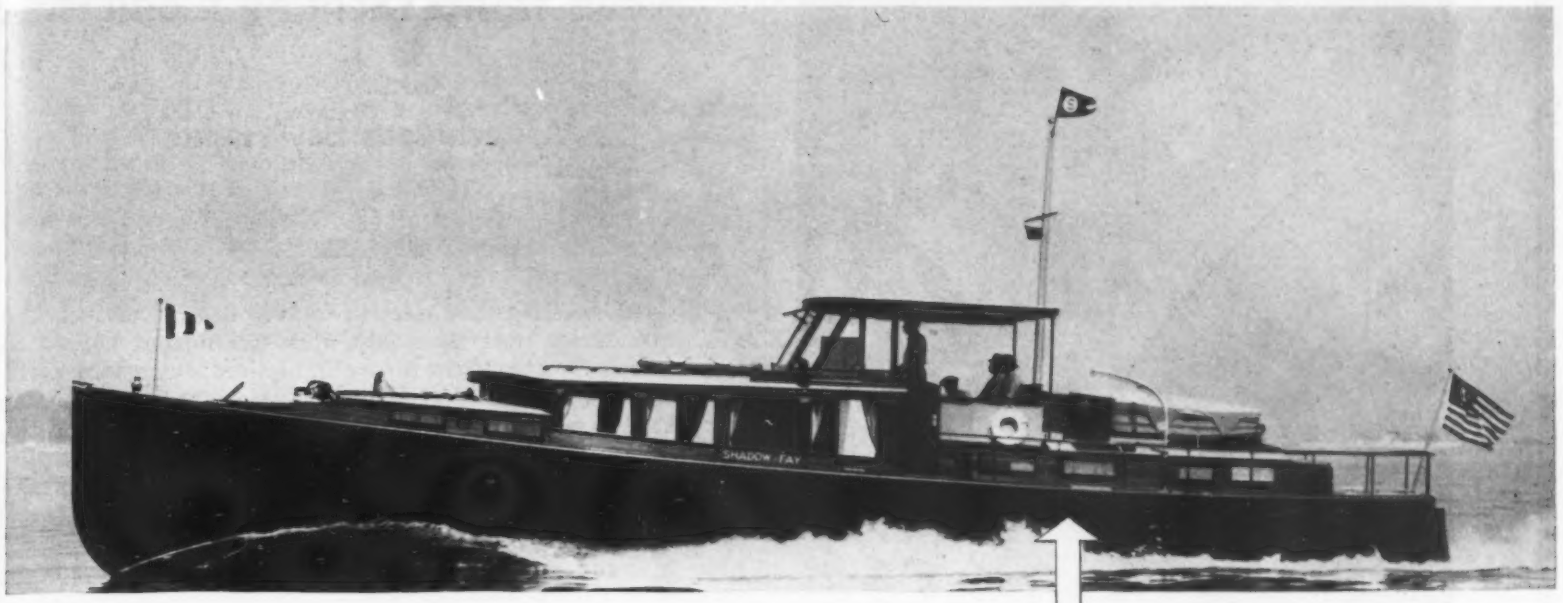
(*Continued from page 52*)

Most of the islands seemed to be of fairly recent origin; two of them had only bushes on them, two more showed trees thirty-five or forty feet high, and another bore larger trees and many coconut palms. They were composed of sand and probably at no point were they more than eight or ten feet above sea level. The chart I have drawn shows better than any description their situation on the long shallow reef.

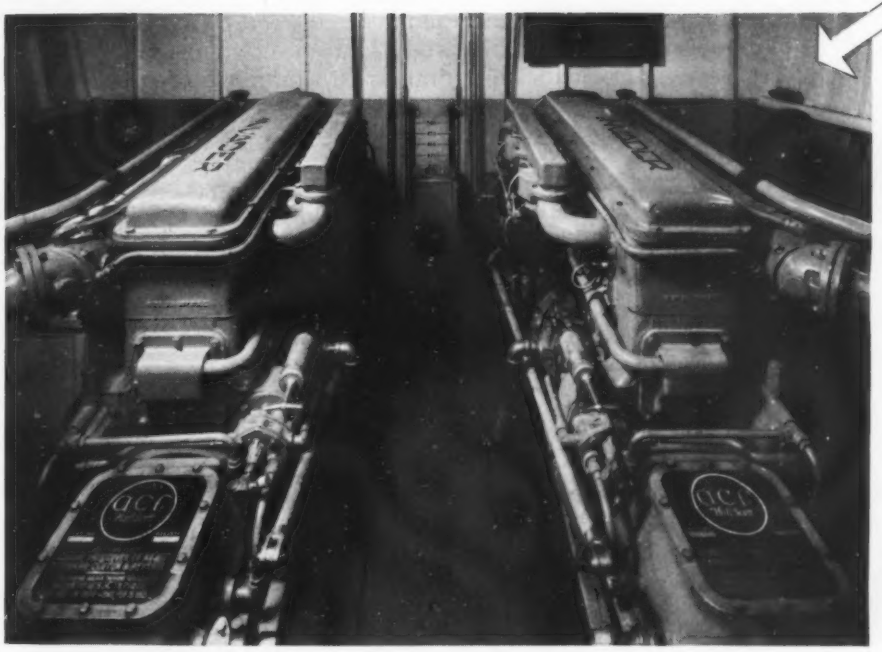
After these were all charted, arguments and suggestions fell thick and fast as to what we should name the new islands. The atoll, as may be seen on the chart, is so different from the usual coral formations in this vicinity that we felt it also should be named. We therefore called it Rufus Reef for the ship's doctor, Rufus Southworth, who was at the wheel when we ran between it and the long reef. Besides, we all liked the sound of it. One island of course had to be Yankee Island for the ship. The other four were named for several people who made the cruise possible: Arthur Island, Exy Island, Roger Island, and Search Island. The family names may sound a little strange, but they are in good company with others to be found on the charts of these waters: Annie Florence Island, Violet Patch, Katharine Bay, Lizzie Weber Islands, Marie Louise Reef, Clarence Strait, and Bassett Smith Shoal. Besides, we felt that no name we could choose could possibly be objected to when the chart has already admitted two such as Boo Island and Blupblup Island.



THE HEART OF THE VESSEL is in the



ENGINE ROOM . . . .



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FOR MODERN MARINERS

News from Yachting Centers

Massachusetts Bay Flashes

By

ED EARLE

ANNUAL meetings and election of 1935 flag officers held the deck during the past month. Rear-Commodore Gerard B. Lambert was elevated to the three-star berth of the Eastern Yacht Club to succeed Commodore William T. Aldrich. The new senior flag officer, owner of the famous Class I veteran *Vanitie* and the three-masted schooner *Atlantic*, who recently purchased the America's Cup defense aspirant *Yankee*, is refitting the bronze Boston sloop for an invasion of European waters. F. Haven Clark was elected to succeed Chandler Hovey as vice commodore, while Malcolm W. Greenough takes the rear commodore's berth vacated by Commodore Lambert.

\+ + +

The other officers and committees of the Eastern Yacht Club for this year include B. Devereux Barker, secretary; Stephen W. Sleeper, treasurer; Charles Francis Adams and Robert Lessen, members of the council, at large; J. Amory Jeffries, John R. C. McBeath, Francis W. Belknap, Frederick J. Shepard, Jr., and Henry A. Morss, Jr., race committee; Robert S. Weeks, George E. Stephenson, Isaac R. Edmands, Lawrence H. Hansel and Stephen Paine, house committee; Francis H. Cummings, Samuel Mixter, Robert E. Peabody and James J. Storrow, Jr., committee on admissions.

Through the activities of James Cunningham Gray, for thirteen years chairman of the Eastern Yacht Club race committee, who now retires — the famous Marblehead club enlarged its scope not only in big boat racing but in small boat events as well. The veteran racing director has been an ardent booster of junior yachtsmen, and has worked hard building up the Eastern Yacht Club midsummer series.

\+ + +

Commodore Richard deB. Boardman, who sailed Frederick H. Prince's America's Cup defense candidate *Weetamoe* throughout the long series of trials from June until the latter part of August, was reëlected for a second term as head of the Corinthian Yacht Club. The other officers and standing committees for 1935 include Jesse W. Morton, vice commodore; William T. Haley, rear commodore; John P. Squire, secretary; Frank S. Cleghorn, treasurer; Arthur J. Santry and Harry N. Bloomfield, executive committee; George W. Hooper, Clifford L. Lyall, Frank S. Deland and Charles H. Latham, membership committee; Frank P. Munro, William L. Carlton, Robert M. Fallon and Gregory Connolly, race committee; and Edgar W. Bright, house committee, for a term of three years.

\+ + +

The first 30-Square-Metre to visit these shores from the Baltic, the *Visitor*, formerly the *Gluckauf*, has been sold by Ernest B. Dane, Jr., to Brenner Root, of Cleveland, through the office of Belknap and Paine. The narrow-rigged sail area class was introduced in this country when Hannes Stinnes brought the *Gluckauf* to Marblehead in 1929.

\+ + +

A 37-foot auxiliary double-end cutter from the board of Belknap and Paine is under construction at the Eastern Shipbuilding Corporation, Shelburne, N. S., for a Boston yachtsman. The new cutter will be gaff-rigged and carry main and jib topsails. She is practically flush decked with two small trunks to give headroom.

The *Yankee* is being groomed up at Lawley's Neponset yard for her invasion of foreign waters this summer. The first bulkhead is up and most of the joinerwork is well along.

+ + +

The Boston office of Sparkman and Stephens reports that more interest was shown in boats in the fall of 1934 than in the previous year. A few of the yachts which have changed hands through this office are the 46-foot over all ketch, *Werdna*, from Charles D. Jencks of Bristol Highlands, to H. L. Willoughby, Jr., of Newport; the 43-foot over all schooner *Coaster II*, from Murray G. Peterson of Marblehead to C. Prescott Knight, Jr., of Providence; the Elco 42-foot *Patsobel II*, from Charles D. De Vinne, of New York to Dr. George W. Van Benschoten, of Providence; and the 38-foot yawl rigged motor-sailer, *Gadfly*, to James H. W. Whitcomb, of Wellesley Hills.

+ + +

Hasket Derby, well known among New England yachtsmen, has joined the Boston office of Sparkman and Stephens. Mr. Derby, who has been actively engaged in the brokerage business for several years, hails from the old Derby family of Salem, which owned the famous privateer, *Grand Turk*. He is the owner of an auxiliary schooner bearing that name.

+ + +

John G. Alden announces that Ashley D. Adams, formerly president of Boston Yacht Sales, Inc., has become associated with him. Mr. Adams, besides maintaining an active brokerage business, carried on an extensive building program on his "Seven Seas" schooners, yawls and cutters.

+ + +

A new 35-foot auxiliary yawl is building at Casey's Fairhaven yard for Stephen Bowen of Boston and Duxbury, from designs by Alden. Her lines are similar to several centerboard yawls built during the past two years from this designer's plans, which have proved satisfactory where shoal draft is required. A sister yawl, *Picaro*, for Norwood Calvert and also built at the Casey Yard last spring, has recently cruised to Florida.

+ + +

The Dog Watch Meetings of the Boston Yacht Club got under way on January 7th with Richard W. Pratt as the first guest speaker. A partial list of the speakers who will talk on some phase of navigation include Prof. Harlan T. Stetson; Lieut. Welling, U.S.N.; G. H. Noyes, meteorologist. Designer Walter J. McInnis; Rear-Commodore George K. Briggs, and Alex W. Moffat, author of the tried and true "Galley Guide" are also included in the list of speakers.

+ + +

Commodore Charles A. Sawyer, Jr., was named to head the Boston Yacht Club again, with Alexander W. Moffat, vice commodore; George K. Briggs, rear commodore; James R. Hodder, secretary; and, Schuyler Dillon, treasurer.

+ + +

Commodore Ambrose W. Isele was reëlected to his fourth term as head of the South Boston Yacht Club.

+ + +

The Boston office of Sparkman and Stephens reports that construction has been started at Lemos Bros., Riverside, R. I., on a 40-foot over all auxiliary yawl for Charles D. Jencks of Bristol Highlands, R. I. She will have a spread of 701 square feet of sail with a double head rig.

The KENYON SPEEDOMETER and LOG

The *Rainbow*, the *Endeavour*, the *Yankee*, the *Vanitie*, the *Weetamoe*, and more than 175 of the nation's finest yachts are equipped with the Kenyon Marine Speedometer and Log, — the instrument that proves or disproves the correctness of your ideas of sail trim in racing. It accurately registers nautical speed, changes in speed, and distance covered; is indispensable to successful racing; and a source of great pleasure to every yachtsman. The 1935 Kenyon Speedometer and Log feature improvements that greatly increase the ruggedness of these instruments. Write for our descriptive booklet.

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At principal ports of call, along the coast and inland water routes, you will find a complete line of Texaco Marine Products. Texaco dealers will gladly help you sign on an "able crew" for your boat and add to your comfort and pleasure in many ways. When you see a Texaco Marine Products Sign, go right alongside. You'll find a "home port" that's hard to beat.

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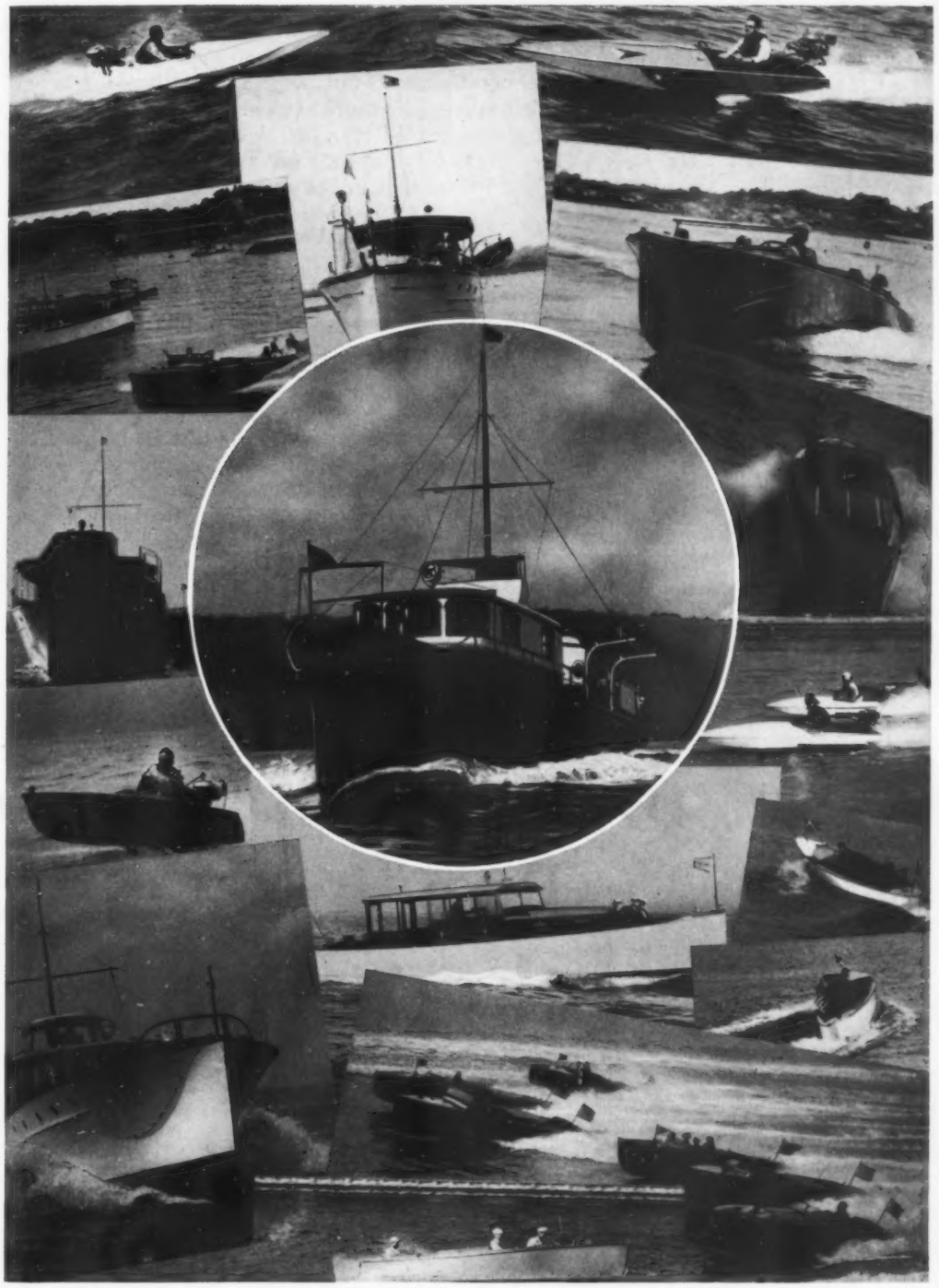

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Narragansett Bay Gossip

By

SPINNAKER LIZ

AGAIN! Another dinghy regatta, which will be the Narragansett Bay series held in Bristol March 9th and 10th. As last year's regatta seemed to be a great success, the dinghy chairman, Peter Geddes, is planning bigger things and everyone hopes for a large entry. There will be the Class A and Class B dinghies and possibly the new one-designs if there are enough entries. The regatta will be run along the same lines as last year.

The fall series of the Frostbiters has ended with more enthusiasm than ever. Each Sunday found more boats and more spectators out, so no one knows what the spring series, which will be the real test, may bring forth. Our New England winters seem to start around the middle of January. The fleet sailed six regular races of which the boats had to sail in two-thirds to qualify. Out of eight qualifying and five not qualifying in Class A, Peter Geddes's *Nut Shell* placed first with 84.06 per cent; Herbert Barlow's *Dab Dab* was second, with 73.42; Mart Keeler's *Cublet* placed third, with 70.69. In Class B, seven qualifying and five not qualifying, Smith's *Jade* was first with 77.61; Jack Wood's *Flying Trapeze*, second with 69.55 and John Lane's *Moo*, third with 68.20. Although Sidney Herreshoff's *Frost Fish* rated 96.81, he did not qualify as his boat was completed in time for only the last two Sundays — a lucky break for the other participants as she is exceedingly fast and somewhat radical in design. She is a flat bottom boat with somewhat elliptical sections. She is painted like a fish, the top strake dark gray, the second strake lighter, and so on to a pure white, which gives an illusion of hollowness.

The most interesting feature is her rigging, as she has a double boom with the forward ends held apart by a spacing stick. The shrouds are attached to the forward end of the boom and these lead to the mast just above the partners. There is a purchase on the outhaul so that one can adjust the draft of the sail at all times. Her centerboard is raised and lowered by a lever attached to the centerboard box.

Chilblain has changed hands again! Whether it was because she is a remarkable boat or that her name is so appropriate for this Frostbite season, no one knows but, anyway, Jim Sheldon is her owner now, which makes one more skipper to add to the list.

Arnold Hoffman has traded his Class A *Padded Cell* for a new Dyer "A". Of course, not an even trade, but Arnold thought he needed a new boat — one that might go faster!

\+ + +

The Herreshoffs are building two new Fisher Island 23-footers, one for Pierre duPont, 3rd, and the other for Arthur E. Whitney of New York. This makes a total of seventeen of this class that the Herreshoff Company has built in the last three years.

\+ + +

Zenas Bliss, navigator of the *Rainbow*, has been kept busy all winter lecturing before clubs, fraternities and engineering societies, and next month will lecture before the American Society of Mechanical Engineers at the Engineers Club, Boston. As last year's match as a topic of conversation doesn't seem to lose its interest, the inevitable discussion will probably continue.

\+ + +

At the annual meeting of the Narragansett Bay Fleet of the International Star Class, John Mason was elected fleet captain, and Edward Cabot secretary-treasurer. A strong sentiment for

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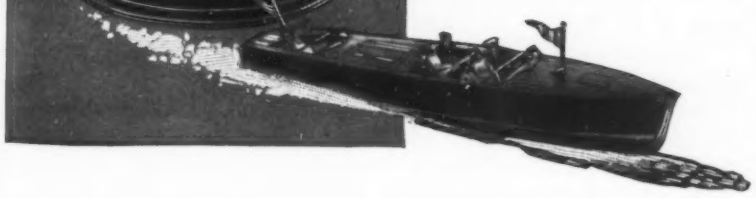

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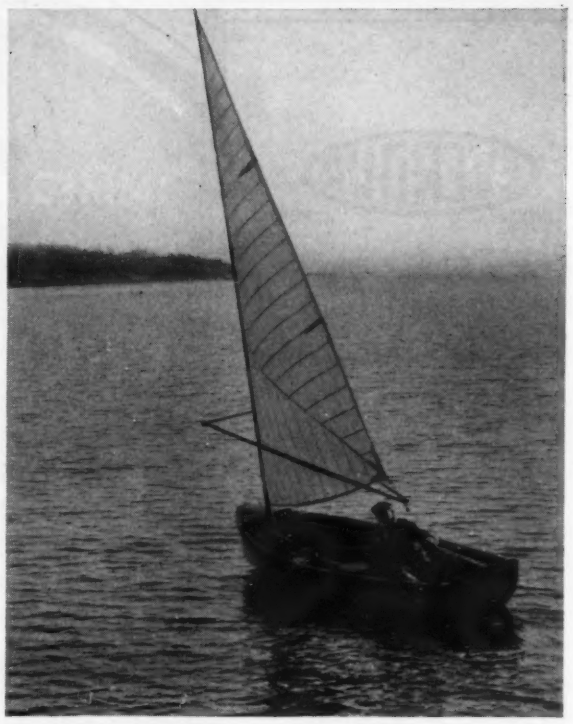

Sidney Herreshoff's novel rig on his new Dink "Frost Fish." It has a double boom, the forward ends being spread by a spacing stick

holding the races next summer off Bristol was manifested as many of the fleet owners are from the eastern shore of the Bay, and conditions are thought to be better than at Warwick.

\+ + +

For the past few weeks there has been quite a bit of ice boating on Tioque Lake, in Warwick. There are about eight boats, enough to make the racing exciting. Tom Harris has two, Lincoln Arnold, Jack Wood, Jim Sheldon, Clinton Cook and Wendell Brown each one, and there is a local boat, *Spirit of Sport*, a good old home-made model.

\+ + +

Another new boat to be seen on Narragansett Bay this summer, which will probably have her mooring off the Barrington Yacht Club, is a 40-foot ketch designed by Crocker and being built at Reid's in Winthrop, Mass. This boat is of especial interest by reason of the fact that, while she is to be an auxiliary and not a motor-sailer, she will have the type of deckhouse seen on the latter.

BUZZARD'S BAY

Buzzard's Bay appears to be quiet with everyone hoping for a bigger and better year to be started soon. In fact, everyone seems to have many plans but as yet they need the urge of spring or the sting of winter to spur them on to big things.

William Wood in New Bedford is building a new motor-sailer designed by Dobson, 30 feet over all, 26 feet on the water and 10 feet beam. She is being built for Captain Charles Baker of the Butlers Flat Light House off New Bedford harbor. At the same yard they are also building a life boat for the *Atlantis*, at Wood's Hole, which is 23 feet in length and 6 feet beam. A 25-foot boat on exactly the same lines was delivered prior to this one, and the new craft will fit right into the larger one.

\+ + +

Pat O'Connell, in Taunton, is building a 37-foot skipjack sloop for Joseph R. Gould, of Springfield, Mass. She was designed by Charles Bond and is a centerboarder of "V" bottom construction. She is 31 feet on the water, 12 feet beam, 3 feet 6 inches draft and will have a 40 hp. Lathrop motor. As she is of such light draft, she has a very high deck to give ample headroom, which makes her look quite bulky. The design is one seldom seen around these parts, but there are quite a number of them on the Chesapeake.

Also under construction at this yard is a new design of a 16-foot sloop by John Alden. She is a centerboard boat and may be shown at the Motor Boat Show.

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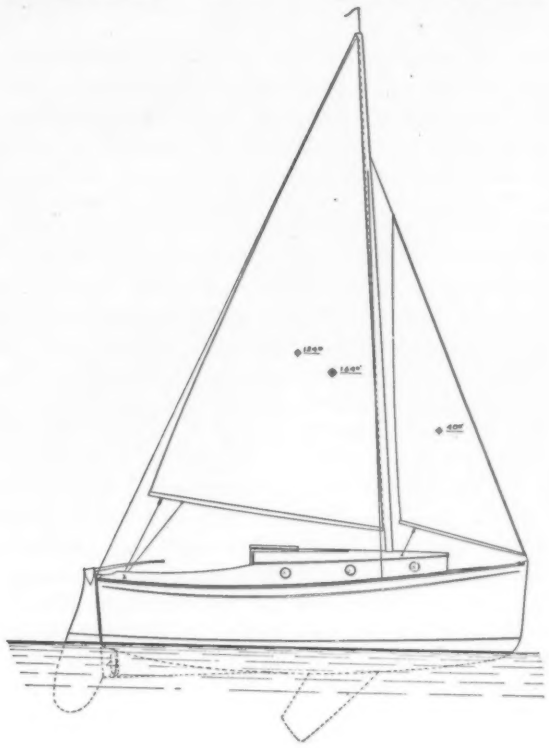

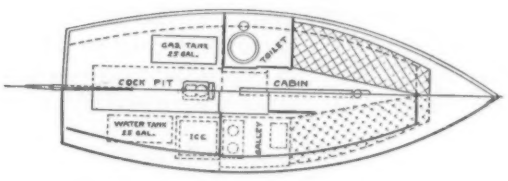

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Sound Waves

By LEE SCUPPERS

INTER-CLASS warfare on Long Island Sound will flare again next summer with all of its old fury and considerable new interest, thanks to the aggressiveness of the Victory skippers, who have gone about flinging challenges left and right (oh, very well, port and starboard) at the Interclubs, Atlantics and Herreshoff "S" Class.

Since the Victories have pretty well established themselves in recent years as the champions of the titillating sport of team racing, they reasonably might be expected to remain snugged down in their home ports resting on their laurels, so to speak, and waiting for the other classes to say, "Come on out and fight."

But the Victories were taking no chances of being deprived of their favorite Sunday afternoon sport through the bashfulness or lack of belligerence of the other one-design groups in their approximate measurement category. They sent Ted Clark to the Interclub Class dinner with a challenge and then, when they held their own winter party, invited representatives of the Interclubs, Atlantics and "S's" there to pick up the gauntlet, a feat which these gentlemen accomplished with no little grace and aplomb.

Team racing at the western end of the Sound has fallen into desuetude because of the marked superiority of the Victories over rival boats of approximately twenty feet water line. The Gardner-designed, raised deck knockabouts walloped the Interclubs three times in a row, and the Interclubs decided that thereafter if any team racing was done it would take place in their boats, Victory crews taking four of them over for the occasion. The Interclubs won the only race held on this basis and last year there was no Victory-Interclub race of any kind.

The Victories outsailed the Atlantic one-designs twice and that rivalry ceased abruptly. Only the competition with the "S" boats from Oyster Bay thrived. They have met five times, the Victories winning three races and losing one. Last summer's match was unfinished because an Oyster Bay typhoon left the rival yachts becalmed miles from the appointed terminal. The Victory *vs.* "S" races are always close no matter which team wins and that undoubtedly accounts for the fact that interest in them never has waned.

\+ + +

Contributing to the expected revival of team racing are rig changes put into effect this winter by the Interclubs and Atlantics. The latter class has merely substituted a loose-footed jib for the original club-footed headsail, but the Interclubs have tossed their entire sail plan overboard and started from scratch again. The class has adopted a thoroughly modern inboard rig, tall and narrow, designed by Billy Luders, the talented young Stamford skipper and naval architect.

The mast will be higher, and boom shorter, thus permiting the use of a permanent backstay, and the jib will be loose-footed. And, what is more, the class is going in for circus tent spinnakers. This rig already has been tried out and it appears to make the Interclubs lively in light airs without affecting their stability in hard breezes.

Several of the Interclubs have already been towed up to the Luders yards for rerigging and the addition of lead to the bottom of their keels. Just how much all this is going to cost the Interclub owners no one has been able to find out definitely, but by the time the new rig is set up, the lead added, a double-luff spinnaker purchased, a new jib acquired, an old mainsail recut and a new one bought, the figures will total $700 or maybe more. The Interclub Class, apparently, has decided that the depression is a thing of the past and that good times are here again. Messrs. Luders, Ratsey and Burrows undoubtedly will agree.

\+ + +

The team racing idea has spread to the Star Class, at least to the Western Long Island Sound Fleet. Rufus Smith, Bayside skipper, has proposed that instead of sailing a number of fleet races in various ports on Sunday afternoons, the Stars map out a sched-

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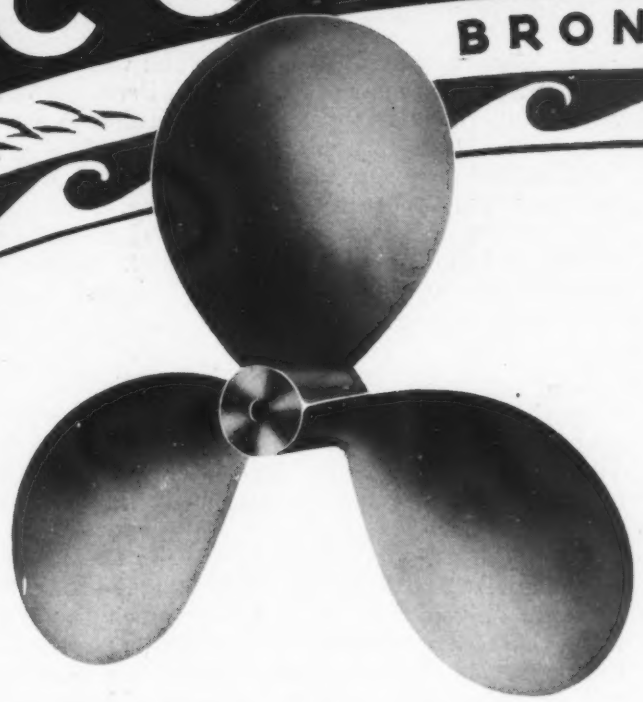

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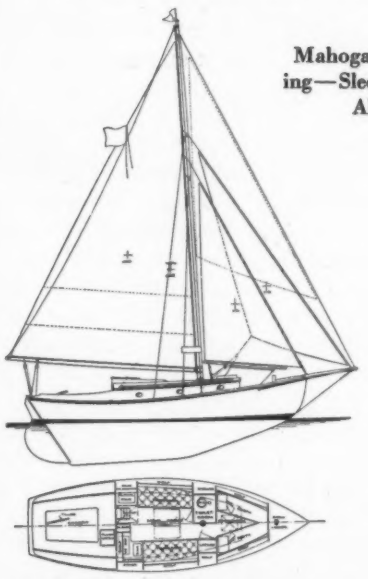

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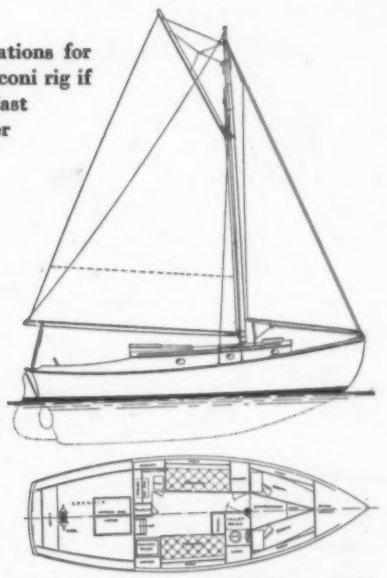

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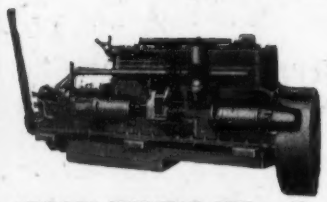

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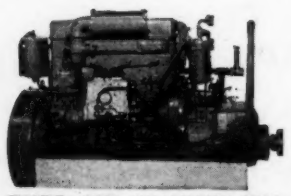

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ule of team matches among boats basing in different harbors. He would have Bayside Stars racing against those of Manhasset Bay, while the newly organized Sea Cliff flotilla tackles the North Shore group and so on. Smith's suggestion met with instant approval and he was appointed chairman of a committee to work out details of the project and report to the class before warm weather rolls around.

\+ + +

The Western Long Island Sound Stars will be represented in the international events at Havana and Bermuda. Adrian Iselin, veteran internationalist who does more sailing in strange waters than he does on the Sound, will take his good old *Ace*, No. 202, to Cuba and her teammate will be *Shucks*, No. 999, owned by E. S. White, who got his first taste of international competition a couple of years ago tending sheets for Iselin in the Bacardi Cup and Midwinter Internationals off the Cuban capital. The fleet's entries in the new event at Hamilton, which will be sailed some time in April, will be announced later.

\+ + +

Another one-design class for the younger sailing crowd is in prospect. When and if it materializes it will be known as the Viking Class, because, in the words of its sponsor, Vivian Burnett of Plandome, L. I., and the Manhasset Bay Yacht Club, "It will go places."

The new boat, as laid down by Charles D. Mower from Burnett's ideas, will be 23 feet on top, 17½ on the water, 7 feet beam and draw 3½ feet. She is a combination racing and cruising boat with cabin accommodations for two and a long, straight, iron-shod keel so that she can be hauled out alongside a wharf or bulkhead without difficulty for frequent bottom scrubbings and painting.

She will be an auxiliary craft, carrying a small, easily stowed outboard motor with an exceptionally long drive shaft that can be clamped on the transom to push the boat out to starting lines in light weather and home again after races if the wind fails.

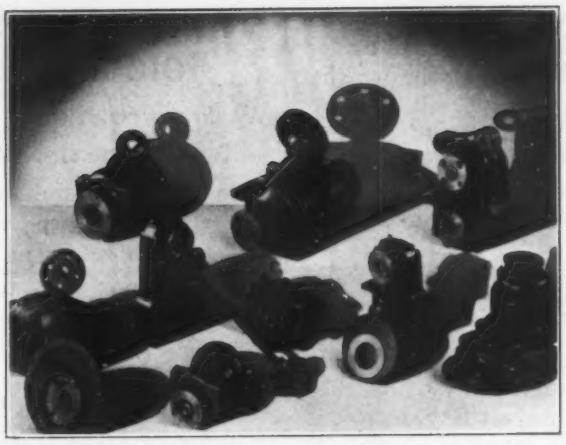
Mr. Burnett feels that there is a need for just such a class to initiate youngsters into the joys of cruising and at the same time keep them interested in racing after they have cut their eye teeth in Meteors, Comets, dinghies and similar craft. He has obtained bids from several builders and believes that the Viking can be turned out for something like $1200.

\+ + +

The fourth anniversary regatta of the Frostbite Yacht Club at Manhasset Bay over the New Year's week-end was a social and political success if not exactly a howling triumph from the point of view of racing. A good-sized fleet of Class A, Class B and one-design "B" dinghies representing Narragansett Bay, Essex, the North Shore and Long Island, had splendid racing the first day, Saturday, and then did nothing at all on Sunday because it blew a mite too peart from the nor'west. Monday saw the Manhasset Bay Class A boats beat the Essex unit, 19 to 17, in one team race and then fall prey to a flat calm in their attempt to sail another.

On the fourth day it blew like the hammers of Thor again from the nor'west, but after a typically gay burlesque meeting of the Frostbite Yacht Club the dinghy addicts rigged ten Class A boats and went out to race just to uphold the sterling traditions of the outfit. There was a short starting line, a rolling sea and a vast amount of breeze and it took no end of skill and luck to keep the dinks right side up. Despite conditions, the self-appointed additions to Howard Curry's race committee went formal on the boys and, of all things, recalled four boats for getting over the line too soon. Three of them came back but the fourth, Ernest Ratsey's pram *Wiggles*, sailed by Ted Clark, kept going and finished first. You can imagine Ted's chagrin when he was informed that he was disqualified and that Bill Dodge, of Mystic, Conn., had won in *Mothball*.

The casualties were terrific. Arthur Knapp, sailing Ben (Scattercash) Harrison's *Ker Choo*, led the fleet to the second mark and all but sank when the tiller snapped as he tried to jibe. He doused sail and finished under oar power. Commodore Egbert Moxham,



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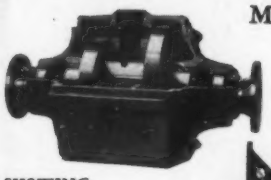

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During the innumerable times she has bucked the swirling waters of Hell Gate she has frequently encountered driftwood and other debris. These accidents have damaged her propellers; *but not her propeller shafts. They are Monel Metal.*

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of Manhasset Bay, finished stern foremost steering with an oar after his rudder had broken in half, and *Red Nose*, sailed by Dr. Gabriel Giannini and Bob Van Name, capsized at the weather mark.

This incident gave Miss Lorna Whittelsey, one of the first Frostbiters, an opportunity to show her skill at boat handling and rescue work. She abandoned the race, luffed up smartly alongside *Red Nose*, and helped her crew, Fred Hibbard, drag Giannini and Van Name aboard. Thereupon she dropped the hoist of her sail and with only the peak up finished the course despite the added load. The spectators on the Manhasset Bay wharf gave Lorna the big hand she deserved.

The new officers of the Frostbite Yacht Club are: Samuel Wetherill, Larchmont, commodore; Gordon Curry, Knickerbocker, vice commodore; Allan Clark, Manhasset Bay, rear commodore; George Ratsey, Larchmont, fleet captain; Everett B. Morris, Manhasset Bay, secretary; Howard L. Curry, life chairman of the race committee; Egbert Moxham, Sr., Manhasset Bay, upholder of the rights of the port tack; Jack Allen, Essex, chief dinghy bailer, and Mrs. Helen Hill, master-at-arms. A suitably inscribed broken tiller in lieu of a mace is Mrs. Hill's badge of office.

West Coast Bubbles

By WALDO DRAKE

CALIFORNIA'S ninth annual Midwinter Regatta, to be sailed off San Pedro February 20th to 24th, will be the biggest ever, even though the only visiting contestant will be Herbert Dowsett, Jr.'s Star *Chip*, from the Pearl Harbor, Hawaii, Yacht Club.

Thirty-nine racing class sloops were entered in late January, prepared to scrap through the five-day program, an equal number of cruising windjammers and Skimmer scows were booked for the week-end schedule, and on Saturday and Sunday only some six dozen little fellows — Snipes, Rainbows, Snowbirds, Starlets, International "Twelves" and such — will race over the inside Cabrillo Beach course. The large classes will all race outside over the Point Fermin Olympic course, except that the windward-leeward events will be sent out to a free mark dead to windward, with all others over the regular triangles.

Star Class entries were boosted in January to eighteen boats, apparently as the result of new South Coast enthusiasm aroused by "Hook" Beardslee in capturing the 1935 Internationals for Newport Harbor.

\+ + +

An average of twenty sailing dinghies turned up at the California Yacht Club anchorage on January week-ends for the opening of the second annual sun-kissed regatta. "Rusty" Fellows and his veteran 12-footer *Flapper* were making splendid progress toward successful defense of their 1934 title, despite hot competition from such veteran "dinksters" as "Bill" and "Art" Stewart, Myron Lehman, Joe Beek, "Doc" Bishop, Howard Wright and Ed Munsey.

\+ + +

The South Coast's first modern motor-sailer will be the Hand-designed 67-footer now building by the Wilmington Boat Works for J. J. Davis, veteran offshore enthusiast of the Los Angeles Yacht Club. Ketch-rigged and powered with a 250 hp. Hall-Scott Invader, she will be of unusually staunch construction, with the enclosed pilot house, deck and trimmings all of teak. She will be commissioned about May 15th.

Ready about the same time will be the first of the new "Wanderer" 40-foot cruising ketches, designed by Hugh Angelman, which Wilmington Boat Works will turn out for stock. Exceptionally roomy for a 40-footer, the "Wanderer" ketch will sleep seven persons, four in the 13-foot main cabin, two in the stateroom aft and a hand forward.

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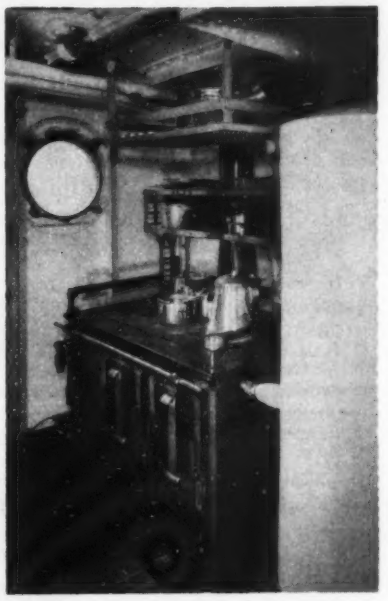

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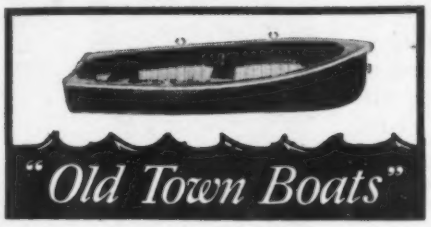

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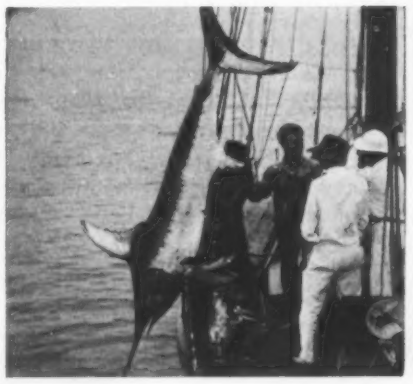

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+ + +

Al Christie, pioneer comedy film producer, who was in at the beginning of closed class sloop racing in California, sailed for New York *via* Panama from San Pedro in January with the declared intention of buying back into the Six-Metre Class again.

"Al" brought the veteran Six-Metre *Lanai* to the Coast six years ago, and later built the 55-foot schooner *Highlander*, with which Harold Dillingham last summer won the San Pedro-Honolulu ocean race as *Manuiwa*.

Bound for Manhattan with Christie is W. E. "Barnacle Bill" Watson, who has just sold his champion 45-foot schooner *Wiletie* to Bruce Beardsley, of Upland.

+ + +

Sidney Exley, commodore of the Alamitos Bay Yacht Club, is the new president of the Civic Regatta Association, which, as seagoing subsidiary of the Los Angeles Junior Chamber of Commerce, stages the annual midwinter regatta. Exley succeeds Paul H. Lamport.

+ + +

Lazard Lippman has traded his Class J sloop *Talayha*, ex-*Athene*, to Tay Garnett for the latter's 60-foot twin screw cruiser *Girl Friend III*. Both boats remain in the California Yacht Club fleet.

So does the 78-foot Gloucester type schooner *Navigator*, which G. Harton Singer, Jr., of Philadelphia and Pasadena, has bought from Clayton de Mott, Jr., of Santa Barbara. The interior of *Navigator* is being completely rebuilt by the Wilmington Boat Works in preparation for a Pacific cruise in the spring.

Another important recent Southland sale is that of Sylsby Spalding's husky 110-foot schooner *Radio* to Morgan Adams, of the Los Angeles Yacht Club, and owner of the 136-foot steel schooner *Enchantress* and the Six-Metre sloop *Ripples*.

+ + +

L. N. Slater, owner of the cruising cutter *Jolly Rover* and the Six-Metre *Lanai*, is the new commodore of the Los Angeles Yacht Club, succeeding Donald W. Douglas, owner of the champions *Endymion* and *Gallant*. The new vice commodore is William L. Stewart, Jr., and E. E. Manning is rear commodore.

+ + +

Assurance that the new yacht harbor at Newport-Balboa would be in readiness for the Star Class Internationals next September was seen in the January announcement by Major Henry H. Stickney, U. S. District Engineer, that by mid-February four electric suction dredges would be simultaneously at work on the job of removing 8,000,000 cubic feet of material in preparation for nine miles of new channels, a turning basin and anchorage.

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